

Purchasing Week

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\$6 A YEAR U. S. AND CANADA \$25 A YEAR FOREIGN

P.A. Captains Sought for Value Analysis Teams



City Buyers Plan Ahead: Snow Flies in August

New York—The snow-melting machines pictured above may provide at least a partial answer to a \$25-million headache. That's how much it cost New York City to dig itself out of last winter's blizzards, and many other cities face similar expensive shoveling, hauling, and disposal problems. The mobile snow-eaters pictured here were

demonstrated last week during a late summer heatwave for the benefit of New York officials seeking highway maintenance economies. The machines made ice water of some 100 tons of man-made snow, but for further details on how they may be expected to perform when confronted by 12-ft drifts next February, read the story on page 33.

N.Y. Central Hits ICC Order Against Its Embargo of LCL

New York—The New York Central Railroad and the Interstate Commerce Commission are engaged in a running battle over a Central plan to cut out less-than-carload shipments between 33 cities on its system and substitute truck service for rail cars to these points.

The move, slated to go into effect Sept. 5, was blocked by an ICC order last week, chiefly on the grounds that the embargo, in effect, would deprive smaller cities on its lines of less than carload service while continuing it to 12 of the largest cities it now serves.

At present, there are 45 cities along the Central line that are designated as "key points"—that is, points at which its trucking

Numbers Take Over From Trade Names On Copper Products

New York—The copper industry has adopted a new system of numerical designations for brass and other copper-base wrought metals that are expected to replace trade names now used for many products.

Devised by the Copper & Brass Research Assn., the system assigns three-digit numbers—beginning with Copper No. 101—to more than 100 commercially important wrought coppers and copper alloys. The heading "Copper No. . . ." is used to designate the coppers and "Copper Alloy No. . . ." to designate the copper-base alloys.

For example, the copper product previously known as deoxidized high residual phosphorus, now would be designated simply

Discounting Hits Glass Container Price Schedules

New York—Glass container prices that went up an average of 3% last April now are back to their original levels and, in some cases, are even lower than they were before the increases were put into effect.

The downward slide began early in July, when Owens-Illinois, the largest company in the field, "readjusted" list prices on some of its lines.

The July decline amounted to only 1.5%, according to the government's wholesale price index. Much larger drops have been reported, however, on individual items. In addition, some discounting is going on.

Liquor bottles, down about 10% from their April peak, have been hit hardest. Prices on certain types of wide-necked jars and narrow-necked bottles for foods also have dropped sharply.

Some of the most important changes:

- **Wide-mouth, 24-oz. jars.** Originally sold for \$7.40/gross, increased to \$7.56, now down to \$7.28. On another jar of the same size, but with a slightly

(Turn to page 4, column 2)



GEORGE A. RENARD

'Mr. Purchasing' to Write Purchasing Week Column

New York—The purchasing profession's acknowledged spokesman—George A. Renard—hereafter is going to bring you his thoughts, comments, and guidance in the pages of PURCHASING WEEK. As of Sept. 1, he became a contributor to this publication, working mainly through the medium of signed columns.

For over three decades, Renard has based his career on service to purchasing and the U.S. government.

He was executive secretary and treasurer of the National Assn. of Purchasing Agents from 1928 to 1959; during this time he also edited the NAPA's Weekly Bulletin.

(Turn to page 33, column 1)

Lower Rates on Air Freight Due As U.S. Scraps Domestic Minimums

Washington—Shippers can expect the first proposals for lower domestic air cargo rates to be filed about October 1, when the Civil Aeronautics Board's decision last week to scrap minimum rates becomes effective.

While no large-scale rush to put new rates into effect is expected, at least one carrier, Flying Tiger Line, said it would file on that date. American Airlines, another backer of the reduced minimums, said it was working on proposals.

Other airlines, especially those that had opposed the move, were proceeding cautiously. TWA, for example, said that any action would take "some study."

On the whole, it was apparent that most air carriers would be holding back until forced for competitive reasons to make a move, as was the case when Flying Tiger initiated reductions in certain eastbound commodities a few months ago, a move that was quickly matched by several other airlines.

The CAB also put its seal of approval on the new schedule of North Atlantic air cargo rates

(Turn to page 34, column 4)

But VA Experts Warn: Only Initiative Pays Against Technicians

Chicago—Purchasing holds a key spot in the value analysis program, but procurement men who want to stay in the driver's seat had better take the initiative and sell management on the worth of a full scale program. That is the consensus of 50 value analysis experts who gathered here last week to compare notes on how they saved millions of dollars in well-managed corporate value analysis programs.

Here is the way the experts see it:

- VA grew up in the purchasing department, largely as an expansion of cost reduction programs. But now value analysis' scope is expanding towards the product design stage, and a team approach, including engineering and manufacturing, is now necessary to do the job.

A PURCHASING WEEK poll of the companies at the conference, which was sponsored by the consultant firm, Value Analysis, Inc., revealed that purchasing men who had played a leading role in setting up VA programs still maintained a key spot on the value analysis team while programs set up under sponsorship of engineering or manufacturing tended to leave purchasing warming the bench. The challenge is clearly one of taking the lead or else standing on the sideline.

The conference underscored some prime examples of P.A.-inspired value programs:

- VA started in a small way at Westinghouse Air Brake Co., was expanded when the purchasing agent went to management and sold them—via graphs, comparative figures, etc.—on the worth of a major program. Purchasing now retains a key spot on the VA committee, which reports to the general manager.

- At Allis-Chalmers purchasing agent Dean Foote convinced the company to go into value

(Turn to page 34, column 1)

Purchasing Week's Panorama

- **Statistical Analysis** has become one of the principal tools of the scientific buyer. But figures sometimes lie if you don't know how to use them. The correct approach to statistical tools is outlined in the spread on pages 20-21.

- **'School for Strategists'** takes up a typical ordering problem this week: making sure you have the right quantity when you know some items will be rejected. Turn to page 16 for a mental exercise in buying techniques and procedure.

- **Punch Cards** never will replace the buyer, but the newer EDP devices can save a lot of work. The story on page 4 tells how Atomics International and a key distributor have installed a device aimed at cutting some buying chores in half.

- **An Industry-Wide** attack on costs is the strategy being used by airline operators. The Air Transport Industry has a traveling committee calling on key suppliers with suggestions. Some impressive results are detailed on page 24.

Warm Turkey

Attleboro, Mass.—American Sisalkraft Co., a division of St. Regis Paper Co., has discovered a new job for polyethylene—keeping turkeys warm during the winter.

The company is making polyethylene-coated paper board, which is used to protect the interior insulation of turkey barns from deterioration and to seal off drafts. The vapor barrier also reduces barn construction costs appreciably, according to Sisalkraft.

Purchasing Week's Purchasing Perspective

Those industrial purchasing men who drew a line, labeled it prices, and said, in effect, "I dare you to cross it," gained a powerful ally last week. But President Kennedy's warning to the steel industry on prices (see Washington Perspective, p. 7) surprised no one—especially steel men who have known all along they would have to fight Administration pressure if they ever came to a decision to edge prices upward later this year.

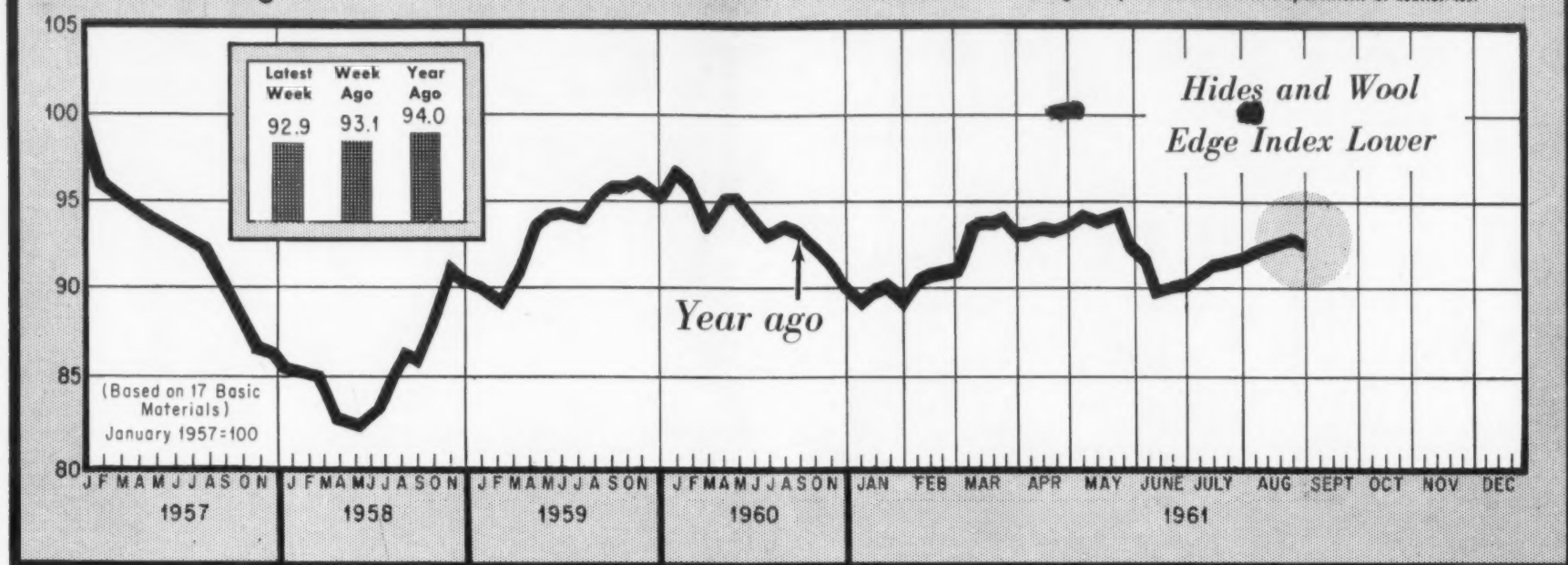
Nevertheless, the 1961 watch in the Alleghenies becomes lonelier and lonelier as steel marketing, pricing, and top management executives eye the economic indicators, the political barometers, and the international pressure gages.

Meanwhile, industry's buyers and other managers continue their quiet little game of speculation—but buoyed by knowledge that short of international catastrophe they still are in command of a buyer's market. Many remain confident in their strategy that

(Turn to page 33, column 4)

Purchasing Week Industrial Materials Price Barometer

This index, based on 17 basic materials, was especially designed by the McGraw-Hill Department of Economics.



This Week's Commodity Prices

	Aug. 30	Aug. 23	Year Ago	% Yrly Change
METALS				
Pig iron, Bessemer Pitts., gross ton.....	67.00	67.00	67.00	0
Pig iron, basic, valley, gross ton.....	66.00	66.00	66.00	0
Steel, billets, Pitts., net ton.....	80.00	80.00	80.00	0
Steel, structural shapes, Pitts., cwt.....	5.50	5.50	5.50	0
Steel, structural shapes, Los Angeles, cwt.....	6.20	6.20	6.20	0
Steel, bars, del., Phila., cwt.....	5.98	5.98	5.975	+ .1
Steel, bars, Pitts., cwt.....	5.675	5.675	5.675	0
Steel, plates, Chicago, cwt.....	5.30	5.30	5.30	0
Aluminum, pig, lb.....	.26	.26	.26	0
Secondary aluminum, #380 lb.....	.212	.212	.24	-11.7
Copper, electrolytic, wire bars, refinery, lb.....	.306	.306	.326	-6.1
Brass, yellow, (sheet) lb.....	.493	.493	.506	-2.6
Lead, common, N.Y., lb.....	.11	.11	.12	-8.3
Nickel, electrolytic, producers, lb.....	.813	.813	.74	+ 9.9
Tin, Straits, N.Y., lb.....	1.248	1.216	1.021	+22.2
Zinc, Prime West, East St. Louis, lb.....	.115	.115	.13	-11.5
FUELS				
Fuel oil #6 or Bunker C, Gulf, bbl.....	2.20	2.20	2.30	-4.3
Fuel oil #6 or Bunker C, N.Y., barge, bbl.....	2.62	2.62	2.62	0
Heavy fuel, PS 400, Los Angeles, rack, bbl.....	2.10	2.10	1.95	+ 7.7
Lp-Gas, Propane, Okla., tank cars, gal. (incl. discount).....	.025	.025	.035	-28.6
Gasoline, 92 oct. reg., Chicago, tank car, gal.....	.118	.118	.126	-6.3
Gasoline, 84 oct. reg., Los Angeles, rack, gal.....	.108	.108	.108	0
Kerosene, Gulf, Cargoes, gal.....	.095	.095	.09	+ 5.6
Heating oil #2, Chicago, bulk, gal.....	.088	.088	.095	-7.4
CHEMICALS				
Ammonia, anhydros, refrigeration, tanks, ton.....	94.50	94.50	86.50	+ 9.2
Benzene, petroleum, tanks, Houston, gal.....	.31	.31	.34	-8.8
Caustic soda, 76% solid, drums, carlots, cwt.....	4.80	4.80	4.80	0
Coconut oil, inedible, crude, tanks, N.Y. lb.....	.126	.125	.148	-14.9
Glycerine, synthetic, tanks, lb.....	.248	.248	.293	-15.4
Linseed oil, raw, in drums, carlots, lb.....	.186	.186	.168	+10.7
Phthalic anhydride, tanks, lb.....	.175	.195	.185	-5.4
Polyethylene resin, high pressure molding, carlots, lb.....	.275	.275	.325	-15.4
Polystyrene, crystal, carlots, lb.....	.18	.18	.215	-16.3
Rosin, W.G. grade, carlots, fob N.Y. cwt.....	13.15	13.15	18.10	-27.3
Shellac, T.N., N.Y. lb.....	.31	.31	.31	0
Soda ash, 58%, light, carlots, cwt.....	1.55	1.55	1.55	0
Sulfur, crude, bulk, long ton.....	23.50	23.50	23.50	0
Sulfuric acid, 66% commercial, tanks, ton.....	22.35	22.35	22.35	0
Tallow, inedible, fancy, tank cars, N.Y. lb.....	.06	.063	.058	+ 3.4
Titanium dioxide, anatase, reg. carlots, lb.....	.255	.255	.255	0
PAPER				
Book paper, A grade, Eng finish, Untrimmed, carlots, cwt.....	17.75	17.75	17.75	0
Bond paper, #1 sulfite, water marked, 20-lb, 16-carton lots, cwt.....	25.20	25.20	25.20	0
Chipboard, del. N.Y., carlots, ton.....	100.00	100.00	100.00	0
Wrapping paper, std. Kraft, basis wt. 50 lb rolls.....	9.50	9.50	9.50	0
Gummed sealing tape, #2, 60 lb basis, 600 ft. bundle.....	6.30	6.30	6.30	0
BUILDING MATERIALS				
Cement, Portland, bulk carlots, fob New Orleans, bbl.....	3.65	3.65	3.65	0
Cement, Portland, bulk carlots, fob N.Y., bbl.....	4.20	4.20	4.18	+ .5
Southern pine, 2x4, s4s, trucklots, fob N.Y., mftbm.....	112.50	112.50	120.00	-6.2
Douglas fir, 2x4, s4s, carlots, fob Chicago, mftbm.....	124.00	125.00	135.00	-8
Spruce, 2x4, s4s, carlots, fob Toronto, mftbm.....	85.00	85.00	84.00	+ 1.2
Fir plywood, 1/4" AD, 4x8, dealer, crld, fob mill, msf.....	66.00	64.00	64.00	+ 3.1
TEXTILES				
Burlap, 10 oz. 40", N.Y., yd.....	.123	.124	.121	+ 1.7
Cotton middling, 1", N.Y., lb.....	.352	.352	.325	+ 8.3
Printcloth, 39", 80x80, N.Y., spot, yd.....	.178	.178	.194	-8.2
Rayon twill, 40x4, 92x62, N.Y., yd.....	.205	.205	.225	-8.9
Cotton drill, 1.85, 59", 68x40, N.Y., yd.....	.365	.365	.38	-3.9
Wool tops, N.Y., lb.....	1.660	1.670	1.445	+14.9
HIDES AND RUBBER				
Hides, cow, light native, packers, Chicago, lb.....	.205	.215	.172	+19.2
Rubber, #1 std ribbed smoked sheets, N.Y., lb.....	.305	.305	.358	-14.8

Purchasing Week's Price Perspective

STEEL CURB—Competition from overseas producers—who are getting set to mount another assault on the American market—could be one of the major factors in preventing major steel price increases next month.

Here are some of the signs:

• **Tonnage**—Incoming shipments of steel products in June (latest available month) soared to 277,000 tons—the fourth straight month of rise and the highest level in 14 months.

• **Prices**—World prices are turning easier. In recent weeks, for example, the following reductions have been reported: barbed wire and wire rods (Brussels), structural products (Germany), and sheet (Japan).

While the Japanese sheet doesn't effect imports (American firms don't use much Japanese sheet) it will compete with U. S. exports in other markets. In fact, there are already signs that U. S. steel exports are hurting. Thus, outgoing shipments in the first half of 1961 were only about 60% of the tonnage in the corresponding period of a year ago.

• **Industry opinion**—Spokesmen for two major Canadian steel companies—the Steel Co. of Canada and Dominion Foundries, Ltd.—recently intimated that import competition would keep prices from rising in their area.

ANOTHER PRICE INHIBITOR—Import competition isn't the only factor acting to hold down industrial prices.

The domestic variety is pretty strong, too—judging from recent reports which show several more firms backtracking on price increases.

• **Glass Containers**. Despite rising costs, producers have been forced to rescind many of the April 1 price hikes. In fact, some prices are actually below April levels (see story, page 1).

• **Copper tube**. Makers of water tubes are having difficulty in making their recent 7½% hike stick. Reports indicate that most sales have been going at the older (lower) price.

• **Steel conduit**. Many independent and integrated producers have been forced to follow Youngstown's lead in restoring a 5% discount in steel conduit.

CONSUMERS SOCKED—Hosiery buyers will soon be feeling the first effects of this week's rise in the minimum wage rates.

Mills say the new legislation means a boost in wage rates for many employees—from \$1 to \$1.15/hour. Over-all, they say, it adds up to an 8% boost in labor costs—one which will have to be passed on to distributors and consumers in the form of higher prices.

Hosiery isn't the only line affected. Generally speaking, new boosts will affect a wide range of textile, lumber and retail trade establishments.

The Commerce Clearing House gages the over-all effect in noting that the nations payrolls will go up a whopping \$536-million this week because of higher wage minimums.

Moreover, this is only the first installment. Other increases will go into effect over the next few years—until all covered employees reach the \$1.25 minimum.

MORE BOUNCE—Hefty Soviet buying is the major factor behind current firming in international rubber prices.

Red purchases pushed the rubber "spot" price last week to its highest level since May—close to 31¢/lb.

London observers report, for example, that British exports of rubber to the Soviet bloc in the first half of 1961 totaled about 57,000 tons—compared with 14,000 tons in the first half of last year. Russian imports direct from Malaya show a similar increase.

Big Supplies, 'So-So' Demand Depress Gas Tags

New York — High refinery runs, competition, and disappointing demand are combining to weaken gasoline prices in many parts of the country.

In the past few weeks alone, the following contra-seasonal declines (prices normally stay firm until well after the summer driving season) have been recorded:

• **Mid-Continent** — Two cuts have been posted recently—one in mid-August, the other just a few days ago. They've knocked upwards of 1¢/gal. off gasoline tags in this area—with the key 91-octane grade now going for as low as 11½¢/gal.

• **East Coast** — Spotty price declines are being reported all along the Atlantic and Gulf Coast—from Boston to New Orleans. Some of the reductions are quite substantial—ranging up to more than 2¢/gal.

The problem, as one oil industry spokesman pointed out, is that of "basically too much supply, and just so-so demand."

He notes that refinery runs in August ran at the close-to-record rate of 8.4-million barrels daily. That's well above the normal for August, when production usually begins to taper off in anticipation of the fall consumption decline.

In fact, the August rate is higher than at any time over the past year—a development which some experts attribute to a supply buildup to counteract the possibility of a renewed maritime strike later this month.

The real trouble is that this buildup has not been accompanied by an increase in demand. In fact, latest official statistics show gasoline consumption for year-to-date running less than 1% above a year ago.

The combination of higher supply and disappointing demand

is already showing up in higher gasoline inventories. By late August gasoline stocks reached 191.3-million barrels—about ½-million over year ago levels.

This is particularly disturbing because it marks a trend reversal. At the end of July, for example, gasoline stocks were actually 2.5-million barrels below a year ago.

The latest drop in Mid-Continent tags follows a general price cut on nonbranded gasoline (fuel sold by refiners to independent distributors who market it under their own name). With branded

and independent retail outlets locked in a cut-throat competitive price battle, a drop in one quote is almost a certain prelude to a drop in another.

This fierce price battle among retailers isn't limited to the Mid-Continent. Almost all of the East Coast's declines in recent weeks can be attributed to the growing struggle for limited markets. Major breaks have occurred in such key marketing areas as New England, western New York, North Carolina, Virginia, and eastern Pennsylvania.

This Week's Scrap Prices

	Aug. 30	Aug. 23	Year Ago	% Yrly Change
Steel, #1 hv, dlvd Pitt, ton.....	36.00	36.00	31.00	+16.1
Steel, #1 hv, dlvd Clev, ton.....	36.00	34.50	32.00	+12.5
Steel, #1 hv, dlvd Chic, ton.....	39.00	39.00	32.00	+21.9
Copper, #1 wire, dlr buy, feb NY, lb.....	.245	.245	.235	+4.3
Copper (hv) & wire mix, dlr buy, feb NY, lb.....	.225	.225	.215	+4.7
Brass, light, dlr buy, feb NY, lb.....	.125	.125	.110	+13.6
Brass, hv yellow mix, dlr buy, feb NY, lb.....	.15	.145	.125	+20.0
Alum (cast), mixed, dlr buy, feb NY, lb.....	.10	.10	.10	0
Alum (sheet), old clean, dlr buy, feb NY, lb.....	.095	.095	.095	0
Zinc, old, dlr buy, feb NY, lb.....	.03	.03	.04	-25.0
Lead, soft or hard, dlr buy, feb NY, lb.....	.07	.07	.083	-15.7
Rubber, mix auto tires, dlvd Akron, ton.....	11.00	11.00	11.00	0
Rubber, synth butyl tubes, East, dlvd, lb.....	.068	.065	.070	-2.9
Paper, old corrug box, dlr, Chic, ton.....	16.00	16.00	18.00	-11.1
Paper, #1 mixed, dlr, NY, ton.....	3.00	3.00	1.00	+200.0
Polyethylene, clear, dlr, NY, lb.....	.05	.05	.10	-50.0

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World's Largest Manufacturer of Staplers for Home and Office

Price Changes

Tin Salts—Soaring price of tin has pushed salts up three times in the past two weeks. The important potassium stannate, for example, now goes for 87.8¢/lb.—up over 2¢/lb. from the 86.1¢/lb. price of two weeks ago.

Bearings — Kaydon Engineering Corp. is cutting quotes on its Reali-Slim "CP" ball radial bearings from 25% to 42%. Lower costs made the reduction possible.

Fabrics—Boosts ranging from 1½¢-3¢/yd. are reported on many types of finished apparel cloth including sateens, coverts and carded twills.

Trichlorethylene — DuPont is raising prices on this chemical ¾¢/lb., effective October 1. New action restores half of the reduction made in this metal cleaning chemical last December.

Polyvinyl acetate emulsion—Reichhold Chemicals is reducing the West Coast price on this key chemical by 1½¢/lb. Action was taken to equalize West and East Coast schedules.

Beryllium—Producers are cutting beryllium metal rod prices 10%. Lower production costs made this reduction possible.

Copper water tube—Refusal of all firms to go along with recent 7½% boosts has forced some mills "unofficially" to reduce tags back to old level.

Phone Order Device Cuts Paper Work in Half

Canoga Park, Calif.—Atomics International, a division of North American Aviation, Inc., now can order standard hardware items automatically via a new computer system linked with its distributor.

Heart of the automatic ordering set-up is an IBM 1001 data transmission unit which, together with a special data phone device, uses telephone lines to send purchase order information rapidly and economically. This unit was installed by Ducommun Metals and Supply Co. in near-by Los Angeles to speed the ordering and delivery of small hardware items such as valves, plugs, and the like.

The Atomics International system has been in operation since Aug. 1 and during its first month of operation processed 700 orders, but it is still too early to project what the average volume will be in the long run. So far, the company says, the arrangement is cutting paperwork and bookkeeping almost in half.

Here's how the system works: Ducommun prepares data cards pre-punched according to a long-term contract that lists prices for



PUNCH CARD ORDERING: About the only task left for buyers to do here is dial the phone. Data transmitter provides direct order link to industrial distributor. Clerk dials vendor's number, inserts card prepunched with item code and price, then adds quantity on keyboard. Vendor's data receiver automatically makes out an order card.

item to digital code on a transaction card. An operator at Ducommun then feeds the cards into an IBM RAMAC 305 computer which generates the paper work for A. I.'s purchase order. Copies of the order go to the distributor's shipping department and back to Atomics International by mail. Several copies of the order go with the shipment as well.

When the goods arrive at A. I.'s receiving dock, personnel check off the items and quantities according to the supplier's packing sheet. Packing sheet copies are routed to stock and order clerks for review and closing of order information, and, finally, to the financial department to check the packing sheet against

the invoice mailed from Ducommun.

According to Earl D. Needham, director of material for Atomics International, the new automatic system, while still in the trial stage, promises to save time and paperwork. "In one test," he reports, "the shipping department at Ducommun received a written order only three minutes after we put our data card in the automatic transmitter at the Canoga Park Plant."

At present Ducommun plans to extend the system to other industries with which it does business, such as electronics firms and public utilities. The distributor firm says that negotiations are now under way with several companies to install the order system.



P.A.'S AT WORK: Buyers at Atomics International watch new ordering system in operation.

all items furnished under the agreement. These cards go to the purchasing department of Atomics International. When ordering, a purchasing clerk dials the distributor's number on the phone and establishes direct connection. (The device can be set to eliminate an operator on the receiving end if necessary.)

Connection made, the tab cards go into the transmitter and the operator, using the keyboard on the 1001, punches out quantity desired. The transmitter translates punched information on the data card into telephone impulses. At an average rate of eight to 12 cards a minute, the order goes out like a phone call to the receiver unit at Ducommun, where it is re-converted item by

Glass Container Tags Knocked Off Balance by Widespread Discounting

(Continued from page 1) different contour, the comparative figures are \$6.70, \$6.99, and \$6.71.

• **Narrow-necked, quart bottles.** Price was raised from \$8.70 to \$8.75/gross on Apr. 1. Officially there has been no change since then, but according to one major producer, "we can't get rid of these unless we mark them down to about \$8.40."

• **Quart whiskey bottles.** Before April 1 they were selling for \$9.80/gross. They were increased on that date to \$10.03/gross. Now they are selling for \$8.97. The story is much the same for half-pints, pints, and fifths.

In contrast with the general rule of thumb that price is firm when demand is strong, the glass container price cuts have come in the face of rising demand. Total gross domestic sales for the first

seven months of this year are up 5% over the comparable period in 1960, according to the Glass Container Manufacturers Institute. The industry, however, still has excess capacity.

Non-Returnable Boom

In addition, the rise in demand is due mainly to the boom in a single product category—non-returnable bottles. According to GCMI figures, nonreturnable beverage bottles were 64.5% ahead of last year at the end of the first seven months, while non-returnable beer bottles were up 50.6%.

S. F. Davis, vice president of Owens-Illinois, estimated that the ratio of beer cans to nonreturnable bottles sold during 1961 will be about 4.4 to 1. This would compare with 6.6 cans sold for every nonreturnable bottle in 1959.

Lower Carton Cost

Spokesmen for both Owens-Illinois and the Hazel-Atlas Div. of Continental Can Co. said the July decreases were due at least in part to lower prices for shipping cartons, which the glass makers passed along to their customers. But this is not the whole story. Carton prices represent from 18% to 20% of the final cost of glass containers, and while some types of cartons may have dropped by as much as 5%, even this would only account for a 1% change in glass prices.

Last week, however, the glass makers were jolted when corrugated carton prices started moving in the other direction as the

N.Y. Central Tries LCL Embargo But ICC Moves Fast to Derail It

(Continued from page 1) subsidiary, New York Central Transport Co., must begin or terminate interstate shipments. The cities that are not affected by the Central's embargo are: Boston, New York, Albany, Syracuse, Buffalo, Cleveland, Detroit, Indianapolis, Toledo, Cincinnati, Chicago, and St. Louis.

Need for Truck Use

The Central's proposal was aimed "not at getting out of the small shipments field," a spokesman emphasized, "but to draw attention to the need to use our trucks to make deliveries to and through these points in order to overcome a \$10,000 a day deficit in our freight service."

The Central now has a perma-

nent case pending before the ICC for authority to impose the embargo. Hearings are set for Sept. 11, and the final decision may not be made for several months. To fill the gap, the Central made a proposal to provide LCL service by substitute trucking. When this authority was denied, the Central decided on the outright embargo.

The ICC's Bureau of Service and Safety quickly countered with a "service order" stating the Central's announcement did not give shippers the 30-day notice of a tariff change required by law. While the order is set to expire on Sept. 30, the Central is fairly certain it will be altered at that time to extend the block against the embargo.

The Central also said the legal machinery it now faces will hamper its chances of putting the embargo into effect in the near future. A "service order" must be appealed to Division III, the appeals section, and cannot be taken to court until the division has ruled. The Central appealed last Wednesday.

Points Affected

The 33 key points that would be hit by the Central's embargo are:

New York: Rochester, Chatham, Kingston, Utica.

New Jersey: Jersey City.

Massachusetts: Worcester, Springfield.

Pennsylvania: Erie, Lock Haven.

Ohio: Ansonia, Bellefontaine, Bryan, Columbus, Dayton, Farmersville, Galion, Sandusky, Springfield.

Illinois: Cairo, Danville, Kankakee, Lawrenceville, Mattoon, Peoria.

Indiana: Anderson, Elkhart, Evansville, Greensburg, Lafayette, Terre Haute.

Michigan: Adrian, Jackson, Niles.

Scrap Prices Inching Upward as Steel Mills Boost Production Rates

Pittsburgh—Speedup in mill operations and a tightening supply are making for a firmer tone in scrap markets—with higher prices reported in such key cities as Pittsburgh, Chicago, and Cleveland.

Tags on the No. 1 heavy melting grade in Cleveland, for example, rose to \$36/ton last week—up \$1.50 from the week before and \$11/ton or 44% from the low that hit in December of last year.

Much of the same bullish picture is true in Pittsburgh, where a major boost was reported last week in scrap iron. Increases upwards of \$1/ton were reported in both turnings and auto lists there.

While few experts expect any quick price rise to the peak of late 1959, they are generally agreed that tags will continue to inch up slowly through fall.

They cite the growing demand from steel—which is already above 70% of capacity, and slated to edge close to 80% of capacity by October.

Holding Out for Better Tags

Another sign of firming comes from the fact that yards are now holding out for better prices. That's a significant change from a few months ago when dealers were beating the bushes for customers.

There are also hints that exporters may be entering the market in increasing numbers. Both East and West Coast ports report demand from most overseas sources.

The possibility of an auto strike is another factor in the price outlook. Any Detroit work stoppage would have a buoying effect on prices because auto production is a major source of scrap.

paper industry put through a 10%-14% increase on shipments east of the Rockies.

"This intensifies the need for higher glass container prices," said Dr. Arthur W. Wishart, president of Knox Glass, Inc. "Costs are up and profits down. Most companies in the industry are in an untenable position. Sooner or later another attempt at raising prices will have to be made."

Producers of Aniline Reduce Prices by 3¢ To Stir Up Business

New York—Price of aniline was cut to 15¢/lb.—a 3¢ reduction—by three major producers last week.

American Cyanamid was the first to reduce price of the chemical, which is used primarily in the manufacture of drugs, dyes and rubber. It also is used in rocket fuels, explosives and in the petroleum refining industry.

Dow Chemical Co. and the National Aniline Div. of Allied Chemical Corp. quickly followed along to the lower level. A fourth producer, Du Pont Co., said it "probably will meet the competition."

Industry sources said the mark-down of aniline price tags was due mainly to competition among these four companies. Price of benzene, from which aniline is derived, was cut 3¢/gal. in July, but this decrease alone is not enough to account for the aniline reduction, according to industry spokesmen.

Weekly Production Records

	Latest Week	Week Ago	Year Ago
Steel ingot, thous tons	2,020	1,944	1,547
Autos, units	62,073	17,145*	39,587
Trucks, units	23,202	13,035*	15,287
Crude runs, thous bbl, daily aver	8,558	8,339	8,172
Distillate fuel oil, thous bbl	13,992	14,212	12,733
Residual fuel oil, thous bbl	5,479	5,642	6,252
Gasoline, thous bbl	30,791	30,026	29,487
Petroleum refineries operating rate, %	86.3	84.1	83.5
Container board, tons	178,916	167,595	169,155
Boxboard, tons	104,142	99,635	97,660
Paper operating rate, %	90.2	91.3*	92.4
Lumber, thous of board ft	229,029	223,339	228,688
Bituminous coal, daily aver thous tons	1,367	1,370*	1,351
Electric power, million kilowatt hours	15,491	15,665	14,602
Eng const awards, mil \$ Eng News-Rec	402.1	323.5	604.0

*Revised

WASHING

WHEN THE PROBLEM CALLS FOR PAINT THE BEST ANSWER

IS INVARIABLY **Barreled Sunlight**

ENGINEERED *Paints*

Washability is a major consideration in the selection of industrial paints — particularly where good housekeeping practices and high visibility standards demand frequent floor, wall and ceiling "scrubdowns".

The trick is to select paints which not only resist the abrasive action of water

and cleaning compounds but which are *engineered* to provide maximum painting economy as well. And *this* is why the recommendations of Barreled Sunlight Engineered Paint representatives are acted upon so many times in so many plants. On job after job, the paints they recommend more than meet the toughest tests . . . *invariably* pro-

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PAINT "SLIDE GUIDE"**

Contains complete information on Barreled Sunlight Exterior and Interior Finishes, Colors, Primers, and Thinners plus full application and special resistance data.

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- ☐ Please send me your new "Slide Guide" to Barreled Sunlight Paints.

Name.....

Title.....

Company.....

City.....Zone.....State.....

Stampers to Publish Directory for Industry

Cleveland—A campaign to sell industry on the idea of using more stampings will get underway later this year as stampers gear up for the uphill fight to bring in new business. The plan, which will be outlined to stamping industry members at the Pressed Metal Institute meeting at Pt. Clear, Ala., Sept. 24-28, is expected to follow these lines:

Early next year stampers will distribute for the first time outside their membership a directory listing member companies, describing their capacities, special equipment, and special abilities. Published by the Cleveland-based Pressed Metal Institute, the directory will serve as a "buyer's guide" and also will contain technical information on stamping production.

Stampers also will be demonstrating new stamping techniques that could not only open up a tremendous new field for the stampers themselves but also provide the purchasing agent with new sources of supply for present and planned product needs. One technique that worked out this way led to stacked stampings—joining an almost unlimited number of shallow stampings by welding or brazing to give the finished part the weight of parts formed by other methods. Right

now, stampers are experimenting on cold stamping of plastic, working with many of the new alloys.

Helping the P.A. determine whether he should make or buy will get the stamping salesman's attention, too. Through the Pressed Metal Institute, the industry has come up with a prepared evaluation study on the make-or-buy-stamping subject.

With the form, the P.A. can check off "yes" or "no" answers to 10 questions, study cost comparison comments, and come up with a well-defined cost compar-

ison which eliminates guesswork, prevents oversights. For example, the checklist includes a costing area for things like stock chasers and helpers, even covers items like gloves, towels, lubricants and containers.

P.A.'s also can expect stamping salesmen to beef up their value analysis activity. Encouraged by the Pressed Metal Institute's annual redesign award, salesmen are looking closely at product components for parts that can be redesigned, at cost savings, into a stamped part.



NEW DIMENSION is added to piggyback operations with R. G. LeTourneau diesel electric lift truck. Originally designed for logging operations, the truck easily can lift 30-ft. loaded trailers off flat cars.

**unlimited selection
-unequaled service on...**

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CARBON STEEL—No one even approaches the size and diversity of our stocks of hot rolled bars, plates, structurals. Published tolerances assure the industry's most exacting sawing, shearing and flame-cutting.

At Ryerson you will find the broadest selection of steel and aluminum in all types and sizes—plus plastics and machinery. Thus, you're assured of unbiased recommendations on material and metal-fabricating machines to speed production and reduce costs.

And backing up the size and diversity of stocks are these important services: certified quality controls; expert technical help; industry's closest cutting tolerances; dependable, on-time delivery.

Take a quick tour of Ryerson on these pages, then contact your Ryerson representative for details.

Congress Nears Okay On New Rules Penalizing Damagers of Cargoes

Washington—A bill making it a federal crime to willfully damage cargo moving in interstate commerce via common or contract carrier is near approval by Congress. The measure already has passed the House and has been cleared for Senate action by the Senate Commerce Committee. It would levy fines of up to \$5,000 or a maximum of 10 years imprisonment, or both.

Present law provides punishment for cargo damage only if the carrier's equipment is damaged also. The new legislation grew out of complaints by railroads that acid had been thrown on automobiles being moved in piggyback service.

Niagara Mohawk Files For Higher Power Rates

Albany, N. Y.—Niagara Mohawk Power Corp. has filed with the Public Service Commission a new schedule of electric rates which will increase its revenues by \$3,735,000 annually.

The company said the average increase for industrial and commercial customers will be 2%. The increase for residential and farm customers will be less than 15¢/month.

The rate hike, recently authorized by the PSC, is considerably less than the \$11-million which the company had sought.

Distributor Named

Monterey Park, Calif.—Bircher Corp.'s Industrial Division has appointed a Dayton distributor, Srepcu, Inc., for its line of tube, transistor, and component retention and cooling devices. Srepcu will act as Ohio distributor for the firm.



Purchasing Week's Washington Perspective

While President Kennedy has joined the "jawbone" attack against a steel price increase, he has refused so far to be drawn into any specific threats against the industry if it does raise prices. His economic advisers tell him steel companies can absorb this year's wage boosts and still make a "good profit." He warned at a press conference last week that a price hike could touch off inflationary pressures, hurt our competitive position abroad, worsen the balance of payments deficit.

Democratic senators launched their campaign against a price increase this fall (see PW Aug. 28) in the hope of goading the Administration into action. But the White House wants to pick its own time, feeling that premature intervention might backfire. Republican senators, meanwhile, have come to the defense of

the industry—contending that prices should be set by natural market forces and not by government edict. They stop short, however, of describing a price hike as justified.

Still to be heard from on the issue are the major steel companies. At the moment, they are maintaining a discreet—perhaps ominous—silence. If they finally decide to boost prices, there actually is little the government can do. Under present law, it can bring legal action against the companies only if it can prove price collusion—extremely difficult. There is no present thought of clamping any price controls on the economy.

A push for stronger antitrust laws can be expected in Congress next year—and with the possibility of some success. The climate has changed considerably since the Philadelphia court case against the major electrical equipment producers. There was a time when Sen. Estes Kefauver (D-Tenn.) was almost alone in his attacks on business pricing tactics. He now has found a good deal of support.

Part of the reason, of course, is a general step-up in activity by the Federal Trade Commission under chairman Paul Rand Dixon. Now, Attorney General Robert F. Kennedy adds to the drive. In pursuing information from industry, he says, "We are not receiving the cooperation of the business community—right across the board." What Kennedy wants is subpoena power for the Justice Dept. when it is checking a possible violation of civil antitrust laws. The FTC already has such authority.

Hearings on a bill to give Justice such power are being held this week by Kefauver's Antitrust and Monopoly Subcommittee—along with other measures to increase fines and jail sentences for antitrust violations and to make corporate officers liable for the actions of subordinates. It is too late for Congressional action this year on any of these, but enactment in the 1962 session is a distinct possibility.

Minor price increases for machine tools and electronic end items may be in the making. The Labor Dept., under terms of the Walsh-Healey Act, is preparing to establish minimum wages in these industries for plants doing business with the government. The minimum usually affects the entire industry.

Public hearings in the machine tool case are being held this week. Basis for negotiation is a department wage survey in April, 1960, which showed the prevailing wage in the industry to be \$1.75 an hour. The hearing on electronic end items will be held Sept. 18. Starting point for discussion will be a June, 1960, survey showing prevailing wages of between \$1.45 and \$1.60 an hour.

Standby authority for a large-scale public works program to combat unemployment may be sought by President Kennedy next year. He indicated this planning in a letter to Sen. Joseph Clark (D.-Pa.), who introduced such a bill this year. Clark's measure calls for \$500-million in federal grants to match state funds—the program to be terminated automatically when the unemployment rate drops below 4%.

Kennedy told Clark he did not support his bill this year because of the large budget deficit and because he hoped the improving business picture would solve the unemployment problem. But he noted that the unemployment rate still is about 7%, and added: "I have no intention of learning to live with prolonged and severe unemployment."

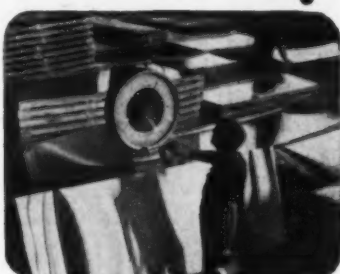
"Barring unforeseeable national security developments which might force a deferral of this action," said the President, "I intend to embody the principle of standby authority for capital improvements in my legislative program for 1962." Kennedy indicated he would go even beyond Clark's program of matching funds. If the unemployment rate remains high, he will seek direct federal outlays for civil works projects, resource conservation measures and other similar projects, "which can start or expand quickly and be completed or cut back on short notice." There would be considerable support for such a program in Congress—particularly among members from economically depressed areas.



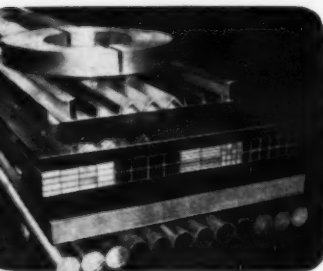
TUBING & CF BARS—Tubing: seamless and welded mechanical; structural; hydraulic cylinder & fluid line; Ledloy® 300. Bars: shafting, machinery steel, accuracy and screw stock, including fast-machining Ledloy 375 and 300.



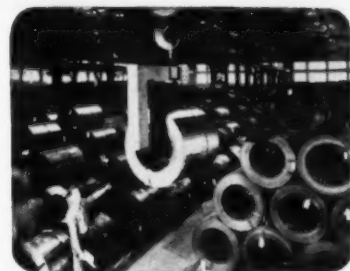
ALLOY STEEL—8-step certified quality program assures riskproof alloys—case-hardening, direct-hardening heat-treated alloys; leaded alloys, including fast-machining Rycut® steels; aircraft quality alloys; etc.



STAINLESS STEEL—2351 sizes, shapes, types and finishes in sheets, plates, bars, tubing, pipe and fittings, etc. All certified to meet ASTM, SAE, military, DuPont or GE specifications. Check in for fast stainless service.



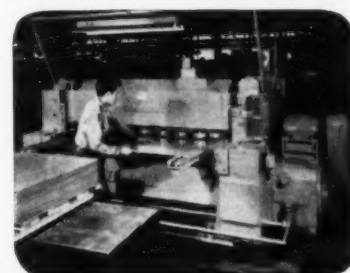
ALUMINUM—Nation-wide service on Reynolds aluminum includes all mill products: sheets, plates, tubing and pipe; wire rod and bar; structural and extruded shapes; construction products for buildings and highways.



SHEET & STRIP—More than 20 kinds of stock sizes—or we can cut sheets to your order with latest shears, slitters and cut-to-length lines for faster service. Also strip coils, etc. Call us for all your sheet and strip requirements.



INDUSTRIAL PLASTICS—Ryertex-Omicron PVC pipe, tubing, sheet and rod conquer more than 281 corrosives. Also rigid Kralastic and flexible polyethylene pipe and Ryertex® laminated phenolic resin plastics.



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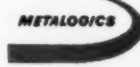
BE METALLOGICAL—All the plus values of our products and service add up to giving you "optimum value for every purchasing dollar. Whatever you need—steel, aluminum, plastics, machinery—be Metallogical, call Ryerson.

This big friction saw bites through a 24" beam in less than 12 seconds. The accuracy of Ryerson cutting on all types of equipment is the closest in the industry.



RYERSON

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STEEL · ALUMINUM · PLASTICS · METALWORKING MACHINERY



KING-SIZE CONNECTOR: Lineman wrestles with 35-lb. "dead-end assembly" made by Alcoa's Rome Cable Div. for holding tension of huge 2.32-in. cable. Prototype system has transmitted 770,000 volts.

Metalworking Group Aims for Bigger Discounts

Hillside, N. J.—A membership sales organization which will seek prime and subcontract work for metalworking shops has been formed here under the name Manufacturing & Machining Services Corp.

The organization, which has a centralized sales force, scouts work on which member shops bid competitively. It has already signed up 155 firms, according to George D. Kaplan, who devised the plan.

As a by-product of the sales plan, Kaplan intends to press for

discounts on purchases of tools, and, eventually, materials by member firms. Kaplan likened the proposed purchase plan to "cooperative grocery store buying." He said it would "present a solid buying front to metalworking manufacturers for the first time."

In the two months M&M has been in operation, it has penetrated the high speed cutting tools market, getting 12½% discounts from distributors on these items, Kaplan said. In addition, he intends to press for discounts in

three other areas: (1) machine tools, (2) accessories, and (3) materiel, i. e. steel, brass, etc.

The sales plan itself works this way: the metalworking shops bid on contracts rounded up by salesmen in eight areas—from Massachusetts to Maryland and as far west as Pittsburgh. Generally, three or four companies bid against each other, under a policy which precludes each from knowing what companies it is bidding against. Companies are selected on the basis of facilities lists, plus initial physical inspection of each shop.

Competitive Bids

"Every member knows," said Kaplan, "under terms of the contract he signs with us that he is quoting on a competitive basis against other member shops equal to his in size and facilities."

To keep the security lid clamped even tighter, Kaplan is reluctant to reveal his list of member firms publicly or even to members. However, after the bidding on a particular contract is over, competing firms are allowed to know each other's identity.

Kaplan, formerly president of Madison Tool Supply Co., Elizabethport, N. J., hopes to make his centralized sales venture nationwide within a year, expanding his sales force coast to coast and lining up 2,500 shops, a goal which he admits is "perhaps too optimistic." He points out that salesmen have exclusive contracts with M&M and do not represent individual metalworking firms.

Small Size Members

The average size of a member shop is 24 production workers, though three members range up to 150. Membership fees are based on size—from \$15 a week for one to six-man shop to \$100 a week for shops in the 100-149 range. M&M's commissions are scaled from 5% on each order under \$200 to 2½% on \$15,000 and over.

Digitronics Corp. Boosts Its Dial-o-verter Speeds

Albertson, N. Y.—Digitronics Corp. will step up the rate at which its Dial-o-verter systems can transmit data over telephone lines by 50%.

The company said it will install magnetic tape terminals, which can operate at speeds of 1,500 words/min., in 17 key cities by year-end. Dial-o-verter systems now being used with punched paper tape equipment transmit data at 1,000 words/min.

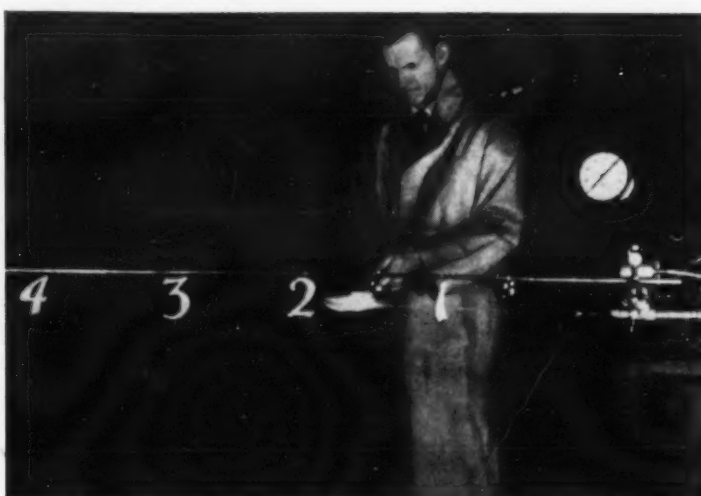
Basic rental for a system with the new magnetic tape terminals will be \$1,205 a month. This compares with \$420 a month for a paper tape hook-up. Rental charges include maintenance and on-call service, but not the cost of phone lines.

More Carbon Black

Bakersfield, Calif.—Continental Carbon Co. has begun production at its new \$4-million carbon black plant here, first operation of its kind on the West Coast. The new installation has an annual capacity of 50-million lb. of oil furnace black, HAF, ICAF, FEF, and GPF grades.



Ordinary hydraulic fluid made from mineral oil is ignited by open flame. Torch is 18 inches from nozzle orifice.



Shell IruS 902 Hydraulic Fluid, in the same test, refused to be ignited by 3000-degree flame.

BULLETIN:

3000-degree flame does not ignite Shell IruS 902—the fire-snuffing hydraulic fluid that helps make factories safe from fire

Shell forced IruS®902 Hydraulic Fluid through a .145-inch orifice at 1000 psi pressure. The IruS Fluid was sprayed from the orifice and a 3000-degree flame thrust into the streaming fluid. IruS was not ignited.

Read the advantages of economical Shell IruS 902 and how it can protect your plant.

IRU S 902 is the fire-snuffing hydraulic fluid that protects lives and equipment.

How IruS works

IruS 902 is an ingenious combination of oil and water. The water is encased in a film of oil. In technical terms, it is a 100% water-in-oil emulsion.

But unlike other emulsions, IruS 902 has optimum stability. This is vitally important. It means that IruS Fluid will retain its lubricating qualities far longer than unstable oils—and will not allow the water to separate out. Result: the water stays in the oil, ready to snuff a fire if needed.

Other advantages

1. Cools off systems. Because of its high rate of heat transfer and high

heat capacity, IruS 902 can allow hydraulic systems to run cooler.

2. Resists thickening and thinning. The viscosity of IruS 902 is tailored to protect pump parts during the entire working cycle—from cold start-up to hot, continuous operation.

3. Saves gaskets, packing, hose. IruS 902 is gentle to nonmetallic parts as well as metal. It can be used almost anywhere that you'd use mineral oil.

4. Resists foaming. IruS 902 does not hold captive air. If air is introduced, IruS 902 quickly releases it.

5. Easier to spot leaks. IruS 902 is bright yellow, helps you spot leaks quickly.

For complete details about changing over to Shell IruS 902, contact your nearest Shell Industrial Products Rep-

resentative. Or write: Shell Oil Company, 50 West 50th Street, New York 20, N. Y.

A message to manufacturers of hydraulic equipment

Shell IruS 902 makes an excellent initial fill.

1. It is available anywhere in the U.S.A.

2. Quality of IruS Fluid is consistently high. It must meet strict Shell specifications.



A BULLETIN FROM SHELL
—where 1,997 scientists are working to provide better products for industry.

Koppers Centralizes New Product Research Gray Iron Founders Group Studies New Uses for Castings Products

Monroeville, Pa. — Koppers Co., Inc., opened a new \$8.5-million research center here last week designed for what Board Chairman F. C. Foy called "planned expansibility."

About one-third of the buildings for the 176-acre site will go into operation now. According to the company, the center will be able to house over 1,500 researchers and other personnel or about four times its present force.

This new facility will be central headquarters of all Koppers

R&D previously conducted at Verona, Pa. However, the Verona labs will continue to operate as a pilot plant test center, carrying on such Koppers projects as the hydrate chemical process of water desalination, polymerization of plastics, and coke oven improvements.

At Monroeville sections representing all of Kopper's operating divisions will concentrate on new products research. Besides these, an Exploratory Researches Section will work on products of no immediate interest to the operat-

ing divisions, working on the development of products which would lead to entirely new product divisions.

Dedicating the new buildings, Board Chairman Foy said, "Koppers research is diversified. It is also marketing-oriented. Which is to say that we are looking for new knowledge that will help Koppers or its customers—perhaps by developing new or improved products, perhaps by the modification of existing processes which will reduce costs or improve quality."

Cleveland — The Gray Iron Founders' Society has initiated an intensive study of current and future uses for gray and ductile iron castings. The program, financed by a group of pig iron producers, is expected to take four years.

The study will cover research, product development, education and promotion, in addition to technology and foundry practice, said Donald H. Workman, GIFS executive vice president.

First phase of the project will

be conducted by Batelle Memorial Institute, which will make a complete evaluation of possible technological improvements in production and use of gray and ductile iron.

Four Categories

The Batelle Institute study will concentrate on four major categories of gray iron users: the automotive, building and construction, machinery and machine tool industries.

Bill to Mix Barge Cargo Advances in U.S. Senate; Passage Appears Certain

Washington — The Senate Commerce Committee has approved a bill which would permit common carrier barge lines for six months to mix bulk cargo, which is exempt from federal rate regulation, with non-exempt commodities in the same tow. The bill is expected to clear Congress before its adjournment.

Reversed Interpretation

Regulated barge lines long enjoyed this privilege, but the Interstate Commerce Commission in June reversed an interpretation of the law that had permitted the practice. The common carriers objected strenuously to this, pointing out that they had made heavy investments in equipment to handle the mixed tows.

The bill restoring the mixing privilege is likely to be only interim legislation, however. Both the ICC and the Kennedy Administration favor legislation that would remove altogether the exemption from regulation granted to commodities which move in bulk by barge.

The exemption applies when no more than three bulk commodities are transported in the same tow. This has the effect of removing most barge transportation from government regulation.

British Form Subsidiary For Machining Process

London—B.S.A. Tools, Ltd., and Metachemical Processes, Ltd., have formed a joint subsidiary, Metachemical Machines, Ltd., to develop the technique of electrochemical machining.

The new company will obtain technical knowledge for production and development of machines for sale in Britain and abroad through a series of worldwide agreements. B.S.A. Tools reportedly is obtaining the money for the project and Metachemical Processes the technical know-how.

Metachemical Processes is the British associate of the Steel Improvement and Forge Co. of Cleveland, which originated the process.

Adopts Wean Lines

Youngstown, Ohio—The McKay Machine Co. has been licensed to manufacture lines of metal processing equipment, formerly produced by the Wean Equipment Corp. of Cleveland, Ohio.



BOSTRON

THE BELT WITH THE HAZARD-PROOF CARCASS!

WILL NOT ROT OR MILDEW

— Constantly running salt water cannot rot or mildew 2-ply BOSTRON belt at J. H. Miles Co., Norfolk, Va. No deterioration from fastener rust, no fastener holding problems.

OUTSTANDING WEAR — Constant impact and friction from razor-sharp oyster shells has not affected the 1/8" Dulon Cover on this

BOSTRON belt. Says Mr. Frank M. Miles, President, "Our BOSTRON belt is good as new after 4 years operation . . . Exceeded every expectation!"

BOSTRON'S hazard-proof carcass, combined with Balanced Belt Construction, makes your investment in a superior Dulon Cover the most sensible, dollar-saving way to buy belts for your requirements.

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Please send free illustrated literature about the new hazard-proof BostRon Belts.
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Management Memos

The Creative Person

A group of psychologists at the University of California's Institute of Personality Assessment Research has found that the creative individual usually shows an early aptitude for his life's work, prefers the big picture to small details and facts, leans toward the artistic and theoretical rather than the economic view of life, and has a positive preference for complexity.

The group, which has labored mightily for six years under the direction of Prof. Donaly W. Mackinnon to probe the soul of the uncommon man, also reported that the creative thinker is allergic to such group-think practices as brainstorming—in fact, he may actually be inhibited by them. What's more, he's acutely uncomfortable in a time-clock atmosphere, because he prefers to do his work in his own way—and in his own good time. At times he may appear to be doing nothing at all; at other times he may put in 24 hours a day, the psychologists point out.

Although none of the group's findings is exactly startling, they do confirm what a number of less scholarly thinkers have suspected all along—to wit, that the gifted person, in business as in other pursuits, is a lone-wolf worker who requires special handling if his creative talents are to produce the best results.

A Study of History

The businessman who doesn't know his own company's history may one day discover that he's been repeating some of the mistakes of the past, according to F. W. Kohlmeyer. Writing in the Atlanta Economic Review, Kohlmeyer suggests that executives take a leaf out of the pages of the military and seek to gain fresh insights for the present by pondering the record of the company's past successes and failures.

Unfortunately, as Kohlmeyer points out, most companies have neglected to make a formal chronicle of their experiences, with the result that important policy decisions are made in a kind of historical vacuum. To remedy this deficiency, Kohlmeyer suggests that management commission a professional writer—preferably one not on the regular payroll—to write a frank unbiased account of the company's history. With this as a guide, decision makers would be in a better position to apply the lessons of the past in charting the firm's future, he says.

The Education of a Machine

Modern man, living in an age of technological wonders, has grown accustomed to hearing about machines that can add, subtract, multiply, and divide mountains of data in a fraction of the time it would take a battalion of mathematicians or accountants. But now comes word of a machine with a vast potential in the field of problem solving that could conceivably relegate man's brain to the scrap pile of technological obsolescence.

The machine, called Cyberton, is the brainchild of Raytheon Co. scientists, who claim that it can learn through trial and error how to solve problems for which there are no cut-and-dried formulas. In its trial runs, Cyberton pitted its judgment against that of an experienced operator and showed that it was able to master in hours learning techniques so complicated that it would take humans months to acquire.

Immediate applications for Cyberton are in the fields of radar, weather forecasting, and sorting of industrial and agricultural data. However, if the machine's enormous potentialities are ever fully realized, according to the scientists, the time may come when it is called upon to bring its judgment to bear on weighty matters in the fields of medicine, law, politics, and military strategy, simply because it is able to make its decision faster and better than human beings are capable of doing.

Fortunately for men, machines need teachers and—even after their education has been completed—must leave to man the final decision as to how and where they will function and what is the difference between right and wrong. The learning process itself is fairly simple, once the programing has been set up. The Cyberton is supervised during its schooling by an expert who feeds in known material and conducts tests that cause the machine to modify its memory material until it comes up with the right answer. Once the teacher is satisfied that Cyberton has been properly conditioned to correct its own errors until it provides the correct solution to a known problem, the learning period is over and the machine is ready to tackle unsolved problems on its own.

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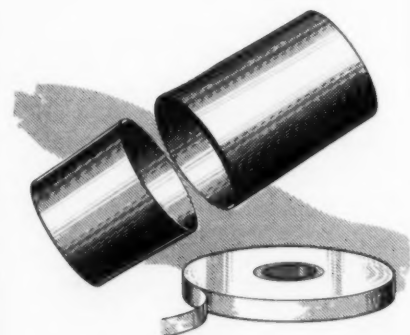
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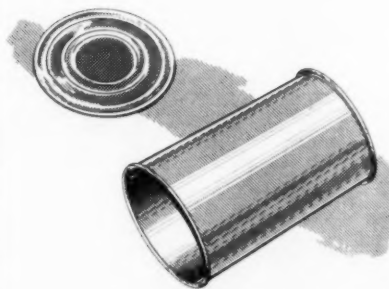
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WHAT VALUE ANALYSIS CAN DO FOR YOU



BEFORE ANALYSIS: Small component aircraft parts were shipped in a slip-cover can. The top had to be taped on in a special operation.



AFTER ANALYSIS: Components were shipped in a fruit-juice type can with a crimp cover that could be fastened with an inexpensive mechanical sealer.

Source: General Electric Co., Lynn, Mass.

TECHNIQUE: Simplify packaging methods.

SAVINGS: Packing cost cut 75% (20¢ to 5¢)

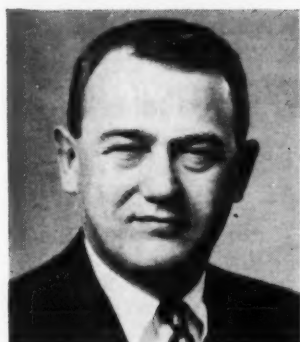
Purchasing Week Asks

Would you do business with a known price cutter, provided he treats you properly?



R. R. Harper, purchasing agent, Grinnell Co. (fire protection systems, valves, etc.), **Denver:**

"When dealing with a known price cutter, consideration must be given to the fact that Section 2 (f) of the Robinson-Patman Act makes it unlawful for a purchaser to knowingly induce or receive a discriminatory price. If a buyer knows that his purchases are the same as his competitors and do not give rise to sufficient cost savings to the seller, he has committed an unlawful act by accepting a cut price. This, coupled with the prime need for material rather than cut prices, causes me to hesitate to do business with a known price cutter even though he 'treats me properly.'"



J. H. Wallis, director of purchases and supplies, Emery Air Freight Corp., New York:

"If a price comes from an operator of dubious or questionable reputation, we would not deal with him as we value service as well as a lower price. On the other hand, if it came from a reputable vendor and it was a legitimate distress sale of merchandise, we would be willing to negotiate and take advantage of the offer."



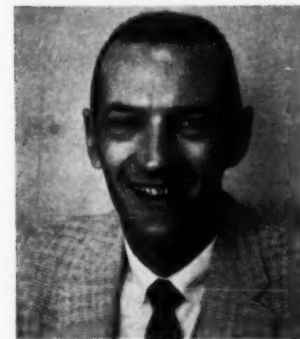
K. J. VonSpitzenger, purchasing agent, Kodak Processing Laboratory, Inc., Washington, D. C.:

"I feel that more peace of mind is attainable by dealing with established vendors, with established reputations. Reputation is often your most valuable stock in trade; therefore, to maintain a high standard of quality we have our procurement influenced by material and services of high standards and rigid specifications. Our vendors stand behind their products, are ready to negotiate prices consistent with competitive offers, and their salesmen and technical staff are available to us for consultation. Can you conceive of a price cutter who is able to offer these services or is even interested?"



D. T. Bradford, purchasing agent, Campbell Soup Co., Fayetteville, Ark.:

"Being treated properly is not foremost in the selection of a vendor. A known price cutter would be a poor source of supply. The quality of his merchandise and service would be as inconsistent as his price."



D. H. Wattles, purchasing agent, Apache Powder Co., Benson, Ariz.:

"We feel that it is advisable to limit our sources of supply to well-rated firms of established integrity, whose products are of known quality. This automatically eliminates fly-by-nighters who might 'treat us properly' today and leave us out on a limb tomorrow. If for reasons of volume, transportation advantages, distress inventories or other legitimate mitigating circumstances, an established supplier offers a price below market, we are more than glad to negotiate with him, secure in the knowledge that service and quality will not be sacrificed."

Next week—Sept. 18

Six purchasing agents answer this question:

How do you keep salesmen out of the engineering department without hurting their feelings?

**Suggest a Question to: 330 West 42 St.
New York 36, N.Y.**

PURCHASING WEEK Asks

Tulsa P.A.'s Join Univ. of Tulsa to Give Seminar For Petroleum Purchasers

Tulsa—A purchasing seminar aimed at meeting the needs of petroleum industry purchasing executives is being offered Oct. 18-20 by the Purchasing Agents Assn. of Tulsa in conjunction with the University of Tulsa.

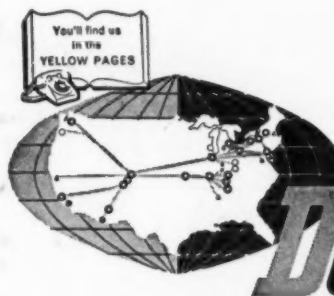
The three-day petroleum industry purchasing management course will ex-

plore the role of the purchasing executive in production, marketing, and finance. Enrollment is limited to 35. The registration fee of \$150 covers private room, refreshments, meals, and transportation between Tulsa and the lodge where the seminar will be conducted.

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to the
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When you want materials, parts or merchandise delivered on time and in good condition, let D-C do it! Coast-to-coast, direct, one-carrier service is exclusive with Denver Chicago. You and your company profit by one-carrier control, one-carrier handling that saves up to 20% running time. Next time, be sure. Specify "SHIP VIA D-C"... the Dependable Carrier!



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the ONLY direct coast-to-coast carrier

The "cool" abrasive vital to ultrasonic machining...

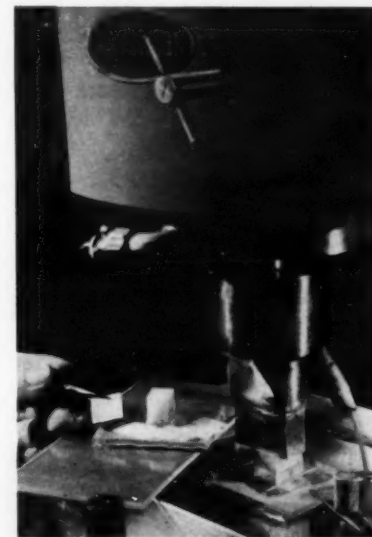
NORBIDE* boron carbide

The Raytheon Company, leading manufacturer of ultrasonic impact grinders, defines the process as including: . . . mechanical vibration at 25,000 cycles per second, above the range of the human ear . . . amplified and transmitted to the cutting tool . . . Tiny particles of abrasive are accelerated . . . and driven with tremendous impact against the work, thereby chipping or grinding an exact counterpart of the tool face into the work . . . This . . . together with the vibrating nature of the process, plus the absence of direct tool-to-work contact and the presence of the cool abrasive, make impact grinding a cool-cutting process. The work material is not stressed or distorted in any way, and is not raised in temperature."

Recommended by Raytheon, Norton NORBIDE boron carbide is the ideal cool-cutting abrasive for ultrasonic grinding.

Always recognized as second only to diamonds in hardness, and as much more suitable for ultrasonic impact than silicon carbide grain, this new improved NORBIDE boron carbide now has greater freedom from impurities — assuring longer lasting cutting power in each ounce of grain.

Your Norton Man will be glad to tell you how ultrasonic machining is being



Raytheon Ultrasonic Impact Grinders are widely used for slicing and dicing semiconductor wafers. Other machining operations include drilling, engraving, broaching, trepanning, shaping, shaving, lapping etc. Driven against the work with an impact force of 150,000 times its own weight, NORBIDE boron carbide grain is recommended by the Raytheon Company as the "cool" abrasive that meets every requirement.

applied in many manufacturing fields to a variety of materials — and how improved NORBIDE boron carbide can help you. See your Norton Distributor or write to NORTON COMPANY, General Offices, Worcester 6, Mass. Plants and distributors around the world.

*Trade Mark Reg. U. S. Pat. Off. and Foreign Countries.

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Making better products . . . to make your products better
NORTON PRODUCTS: Abrasives • Grinding Wheels • Machine Tools • Refractories • Non-Slip Floors
BEHR-MANNING DIVISION: Coated Abrasives • Sharpening Stones • Pressure-Sensitive Tapes

Cities Service Gets \$9.1-Million Helium Contract From Government

Washington—Cities Service Helix, Inc., was awarded a contract by the government for extracting helium from natural gas. The agreement calls for the government to purchase up to \$9.1-million worth of helium annually for the next 22 years.

Helix will build an extraction plant near Ulysses, Kan., to process gas being transported by pipelines of Cities Service Gas Co. in the Hugoton field. The firm has agreed to produce helium at the

rate of 600 cu. ft./yr. for delivery to a government pipeline, which will transport it to Amarillo, Tex., for storage.

The company was the second to get a helium extraction contract under the government's program to conserve 52-billion cu. ft. of the gas, which otherwise would be wasted under current practices. First contract went to Helix Co., a subsidiary of Northern Natural Gas Co., Omaha, Neb.

Sylvania Establishes New Marketing Unit

Batavia, N. Y. — The Home Electronics Div. of Sylvania Electric Products, Inc., has set up a new unit which will lease, sell and service industrial and commercial electronic products. The new electronic products organization will be called Sylvania Commercial Electronics.

Robert E. Kenoyer, vice president and general manager of Home Electronics, said the unit will specialize in direct-wire television systems and industrial security systems.

CAB Expands PUD Air Freight Service to Cover 50-Mile Radius

Washington—The Civil Aeronautics Board has decided tentatively to expand to 50 miles the area in which airlines may provide pickup and delivery service for air freight shipments. The effect would be to make terminal area services available to greater numbers of shippers and consignees.

Under present policy, airline pickup and delivery service has generally been limited to a 25-mile radius—either from the air-

port itself or from the limits of the terminal city involved. The proposed 50 mile rule would measure the distance only from the city's center (city hall or equivalent).

The board would allow two major exceptions to this rule: New York City's pickup and delivery service area, which already exceeds 50 miles, would be expanded to include five city boroughs, eight counties in New York State, nine in New Jersey and three in Connecticut.

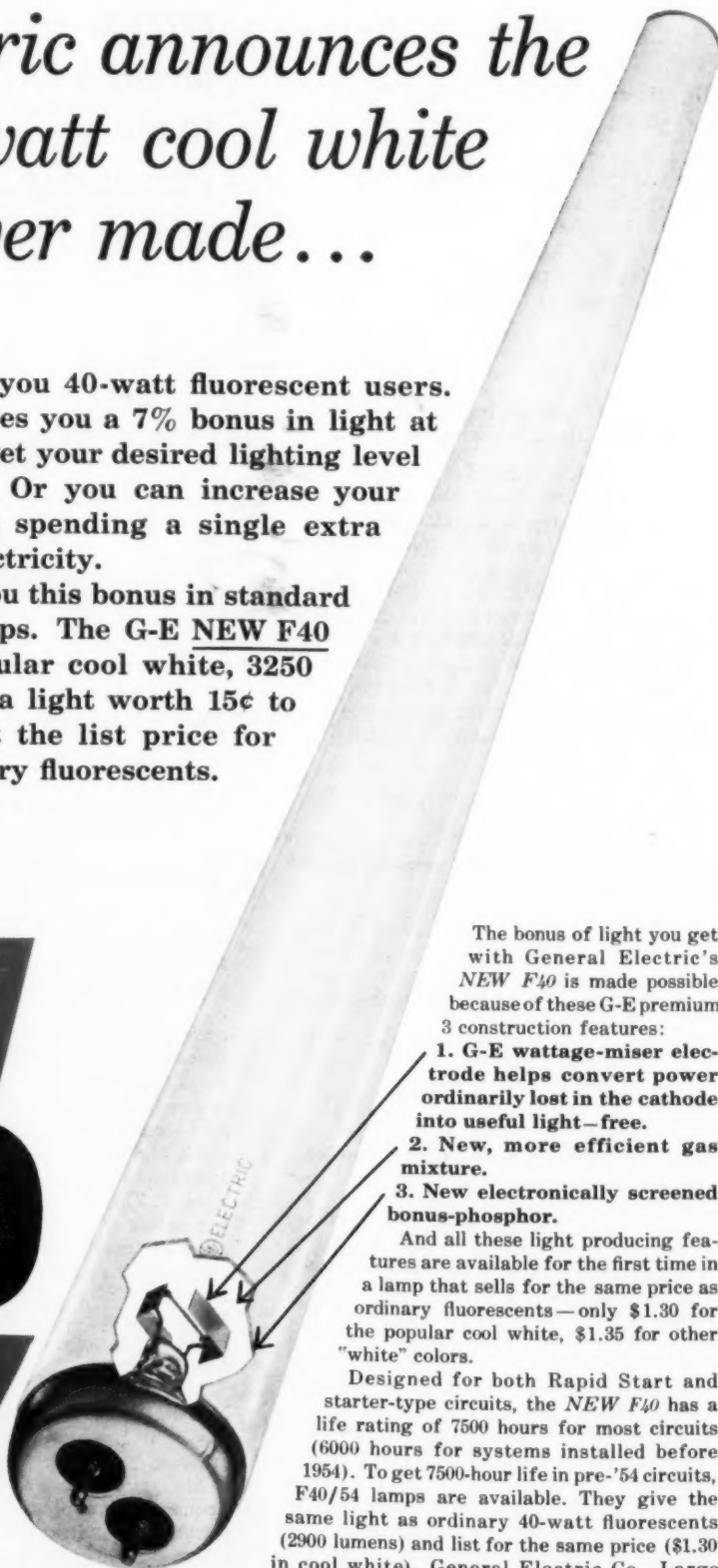
Chicago's terminal area would be enlarged to include, besides the city proper, 11 counties in Illinois, and two each in Wisconsin and Indiana. New York and Chicago generate about 30% of the nation's air freight.

General Electric announces the brightest 40-watt cool white fluorescent ever made...

Here's money-saving news for you 40-watt fluorescent users. General Electric's **NEW F40** gives you a **7% bonus in light at no extra cost.** With it you can get your desired lighting level with fewer lamps and fixtures. Or you can increase your existing lighting level without spending a single extra penny for lamps, fixtures or electricity.

Only General Electric offers you this bonus in standard 40-watt "white" fluorescent lamps. The G-E **NEW F40** is rated at 3100 lumens in popular cool white, 3250 in white or warm white—extra light worth 15¢ to 30¢ a lamp to most users. Yet the list price for this lamp is the same as ordinary fluorescents.

**NEW
F40
ONLY
1.30
LIST**



The bonus of light you get with General Electric's **NEW F40** is made possible because of these G-E premium 3 construction features:

1. G-E wattage-miser electrode helps convert power ordinarily lost in the cathode into useful light—free.
2. New, more efficient gas mixture.
3. New electronically screened bonus-phosphor.

And all these light producing features are available for the first time in a lamp that sells for the same price as ordinary fluorescents—only \$1.30 for the popular cool white, \$1.35 for other "white" colors.

Designed for both Rapid Start and starter-type circuits, the **NEW F40** has a life rating of 7500 hours for most circuits (6000 hours for systems installed before 1954). To get 7500-hour life in pre-'54 circuits, F40/54 lamps are available. They give the same light as ordinary 40-watt fluorescents (2900 lumens) and list for the same price (\$1.30 in cool white). General Electric Co., Large Lamp Dept. C-121, Nela Park, Cleveland 12, Ohio.

Progress Is Our Most Important Product

GENERAL ELECTRIC

P.A. to Handle Buying Operations for Florida Dept. of Conservation

Tallahassee, Fla.—The State of Florida has streamlined its purchasing setup by merging all buying operations in the Dept. of Conservation into one office.

Dept. Director Randolph Hodges said he has been authorized to hire a \$6,000-a-year purchasing agent to fill the post. The new P.A. will handle buying for the department's salt water fisheries, water resources, waterways, geological survey and administrative divisions. Previously, each of these units did its own purchasing, said Hodges.

The Conservation Dept.'s action follows the announcement earlier this year that the state plans to increase the responsibilities of its central purchasing commission (see **PURCHASING WEEK**, July 17, '61, p. 1). Under the plan, P.A.'s at the agency and institution level will be responsible for making requisitions against contracts entered into by the central commission, composed of the governor and his cabinet. In this manner, the commission will supervise purchases of all items required by the state except for building construction materials.

Tulsa Committee to Keep Close Watch on Spending

Tulsa, Okla.—The city committee on needs and standards will make an "almost day-by-day check" of purchases in order to keep municipal expenses down, said Mayor James L. Maxwell.

While warning city department heads that they will get little sympathy if they go over their budgets, Maxwell said they will be allowed to determine on their own how much to spend for equipment, supplies, and salaries.

"The City Commission can do nothing about the total which you receive to operate, but it will be lenient in letting you transfer funds from one account to another," he told department heads.

The mayor called for strict economy measures, explaining that with the defeat of three tax proposals by city voters, all possible means for relief of Tulsa's poor financial situation have been exhausted.

TO THE VALUE-MINDED PURCHASING MAN...

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many
hats



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Why not take advantage of the specialized service CHAIN Belt and Rex Drive and Conveyor Chains offer you. Just call your CHAIN Belt Man or write CHAIN Belt Company, 4702 W. Greenfield Ave., Milwaukee 1, Wis. In Canada, write Rex Chain-belt (Canada) Ltd., Toronto and Montreal.

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Bill to Halt Competitive Rate-Cutting Is Shelved

Washington—The Senate Commerce Committee has shelved for this year's session of Congress a rate-making bill opposed by major shipper organizations.

The controversial measure, backed by the trucking and barge industries, is aimed at halting a concerted campaign of competitive rate-cutting which the railroads have carried on for the past two years.

Although the bill had been sponsored by five members of the Commerce Committee, it stirred up such controversy that the vote in favor of postponing action on it until next year was 12-3.

During extensive hearings on

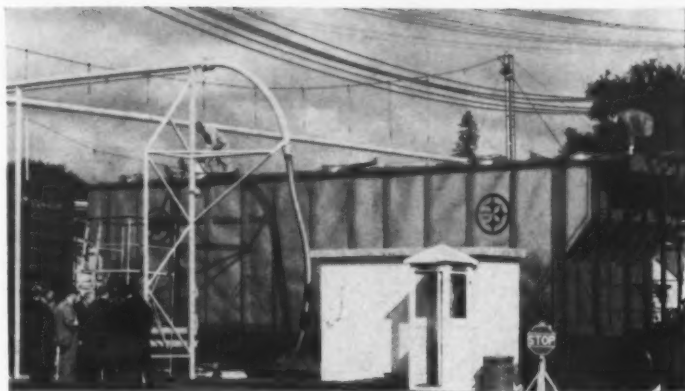
the legislation, the National Industrial Traffic League and various individual shippers joined the railroads in attacking it as a price-fixing measure.

Protective Rates Barred

Existing law prohibits the Interstate Commerce Commission, in passing on proposed rate reductions, to hold the rates of one mode of transportation to a certain level merely to protect the traffic of another. The pending bill would require the commission to consider the competitive im-

pact of the rate cuts, however.

Some change in the rate-making rule probably will be approved by the committee next year but probably a less drastic one than that proposed by truck and barge interests. The Kennedy Administration is concerned over rate-cutting that has tended to weaken already hard-pressed common carriers. It is expected to ask Congress next year to require the ICC to take a closer look at whether sharply reduced rates cover the cost of carriers proposing them.



P.A.'S INSPECT stainless steel covered-hopper cars made by U.S. Steel. Prototype model, now winding up test period, will be featured at Allied Railway Supply Assn. exhibit in Chicago Sept. 10-13.

Pullman-Standard Makes New Piggyback Flatcars For Auto Carrier Market

Butler, Pa. — Pullman-Standard is marketing a new piggyback flatcar for carrying autos that is nearly 2 ft. longer and 11 in. lower than conventional cars of this type. An adaptation of the Lo-Dek car which the company brought out last year, the new 89-ft. model can carry up to 15 autos on its three tiers of racks.

The company said it already has orders for 221 of the new cars. Trailer Train Co., a railroad-owned pool that represents most of the nation's carriers has contracted to buy 127 and North American Car Co. has ordered the other 94. All will be built at Pullman-Standard's Butler plant.

Frigikar Adds New Line

Dallas—Frigikar Corp. will begin producing a new line of cargo refrigeration units at its Reno plant in San Antonio and its plant here, to which a 20,000 sq. ft. addition will be built. The new trailer units will feature electrical equipment for protecting perishables against freezing in winter and for automatic defrosting in summer. Production is slated to start within 90 days.

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SURPLUS SAVING CENTER

Waymart Dept. PW-941 Penna.



SCENE OF THE CRIME!

What these kids are doing to this floor is murder! Maybe the police wouldn't call it murder. But to the custodian, the school board and the taxpayer, these kids are killing its beauty—taking away its life. And what's happening to this floor is the same thing that can happen to your floor—any floor. ♦ Preventing floor murder is the job of Johnson's Wax Crime lab. Our special "field-test" investigators make every new floor maintenance product prove itself under actual in-use conditions before we O.K. it for sale. ♦ For example, months ago we began testing a new kind of finish in schools. This new finish combined natural waxes with polymers. As our investigators observed its perform-



INNER VESSEL of jumbo hydrogen tankcar dwarfs standard unit.

Purchasing Week's

Transportation Memos

HOUSE DIVIDED: Eastern Central Motor Carriers Assn. has come to the aid of the Central States Motor Bureau in its efforts to get the ICC to suspend liberalized pickup allowances which 11 members plan to put into effect Sept. 8. Proposal would increase the allowance paid to shippers who load and unload their own freight to 25¢/100 lb. from present 10¢ at 11 Ohio points, Indianapolis, Detroit, and Wheeling, W. Va.

At the same time, the Central States group is battling to keep members from dropping the temporary \$1 per shipment surcharge levied last April. The Eastern Central group has received ICC approval to extend its \$1 surcharge to Sept. 1962.

NO ROOM ON PIGGYBACK BANDWAGON: Common

and contract motor carriers got a setback when, in two separate decisions, examiners recommended against their use of Plan III (where shipper provides container). Proposing to use the plan were common carrier Strickland Motor Freight and contract carrier Auto Transports, Inc.

Forwarders showed concern over the examiner's wording in the Auto Transports case—specifically that Plan III is for shippers only and not for use by for-hire carriers (which forwarders certainly are). Boon to freight forwarders in approval of piggyback plans can be seen in figures from U. S. Freight Co., which said its piggyback tonnage had jumped 9% since the June 28 decision.

JOINT ALASKA RATE: REA Express put into effect a

joint surface-air rate on shipments to Alaska at surface rates with an in-transit time savings of up to five days. The move, say REA officials, is the first step toward establishing joint air-surface express service at a single rate in the continental U. S. The rate was hotly protested by freight forwarders, who sought to have it suspended.

The new combined REA rate for a 30-lb. shipment from Chicago to Anchorage is \$10.27. To send the same shipment by surface and Air Express previously cost \$15.30. Non-REA service by truck and ship costs \$18.05, an REA spokesman said.

OTHER AIR NOTES: CAB turned down Slick Airways' request to resume regular cargo service Sept. 6. The board wants more time to study renewing Slick's mail-cargo authority. . . CAB awarded Pan American a new route from Tampa and Miami, Fla., to Mexico City, via Merida, Mexico.

HYDROGEN HAUL: Union Carbide's Linde Co. division began coast-to-coast shipments of liquid hydrogen in jumbo tank cars 77-ft. long with 28,300 gal. capacity. Inner construction (see photo) has double-walled container insulated for cargo temperature of -423F. Stainless steel inner vessel was constructed by Linde, carbon steel outer shell by General American Transportation Corp. The hydrogen is carried from government plants in West Palm Beach, Fla., to West Coast rocket sites.

CONSOLIDATION PLAN: To capture freight now moving in package and express service, the Eastern Central Motor Carriers Assn. has proposed a consolidation plan on small shipments consigned to the same cities.

Here's how the plan works: A shipper includes on one bill of lading (prepaid) the markings of three deliveries (no more) to the same destination city, each not exceeding 150 lb., and tenders it as one shipment at the same time to the motor carrier. The carrier will make deliveries for the tariff charge of the total weight plus \$1.50 per delivery.

WHISTLESTOPS: Cab air conditioners will be leased to truck owners by newly formed Automatic Leasing Co., headquartered in Boston. It is the leasing arm of Automatic Radio Mfg. Co., whose Vornado Truck Air Conditioner division makes the unit. . . . New post of manager of pricing was created by Bessemer & Lake Erie Railroad. Preston H. Taylor will handle the job, assisted by James P. Kenney, Jr., supervisor of pricing.

ance underfoot, they suggested changes in the product to make it tougher, safer and easier to maintain. This June, when the tests were completed, we introduced the product as WAXTRA! And we knew for certain we had a new finish that gave a better combination of protection, safety, and gloss than straight wax or straight polymer products. Today WAXTRA! is the hottest new maintenance product in the entire country. ♦ The field testing that helped perfect WAXTRA! is routine at Johnson's, because we won't put out a product until we've proved to ourselves that it's the best we can make.

JOHNSON'S WAX . . . THE PEOPLE WHO TAKE A LONG HARD LOOK AT YOUR MAINTENANCE PROBLEMS—and SOLVE THEM

(If you haven't tried WAXTRA! yet, write us for the name of your nearest Johnson's distributor. We'll also send you further information without obligation. Write to: "WAXTRA!", S. C. Johnson & Son, Inc., Box PW9, Racine, Wis.) © S. C. Johnson & Son, Inc., Racine, Wis.

School for Strategists

PURCHASING WEEK'S 'School for Strategists' takes up a typical ordering problem this week: how to make sure you're going to have the right quantity on hand when you know that some of the items will be rejected. Alongside this is a related poser: making sure you allow enough time for a thorough inspection before the production run is scheduled to begin.

These problems are presented in the form of games devised by P/W Consultant Martin L. Leibowitz as an exercise in disciplined decision making. Here's how they work.

Sample Problem

You're a Purchasing Agent seeking bids on a certain type of materials, and you know that the more bids you get, the better price you'll receive from vendors who want your order. But it costs \$200 to process each bid, so the more bids, the higher will be the processing cost. Your problem is: How many bids should you ask to effect your greatest saving.

Here's the procedure to use in solving this problem:

(1) **What are you trying to do?** You're trying to decide how many bids you should ask for in order to effect the greatest possible saving.

(2) **What data do you have?** You know it costs you \$200 to process each bid. You know, too, that if you invite only one bid, you'll be at the vendor's mercy. But if there's competition, you'll get a better price. So amassing all the price data you can get, you come up with these estimates of savings: \$500 if two vendors bid; \$850 if three bid; \$1,100 if four bid; \$1,200 if five bid; \$1,300 if six bid.

(3) **Arrange this data in an orderly fashion.**

Bids Solicited	Savings
1	0
2	\$500
3	\$850
4	\$1,100
5	\$1,200
6	\$1,300

(4) **Now find the variables.** They are: the number of bids, the amount of the savings, and the cost of processing. As the num-

ber of bids increases, so does the amount of money saved—and so does the cost of processing the bids.

(5) **What are your alternate courses of action?** In this case, they are the number of bids you can ask.

(6) **Now, formulate a mathematical sequence.** You've already done part of this in Step 3; what you have to do now is add two more columns—one listing the cost per bid and the other giving the net savings, i.e., Column 3 subtracted from Column 2. Like this:

Number of Bids Asked	Savings on Purchase Price	Cost of Processing	Net Savings to Firm
1	0	\$200	\$200
2	\$500	\$400	\$100
3	\$850	\$600	\$250
4	\$1,100	\$800	\$300*
5	\$1,200	\$1,000	\$200
6	\$1,300	\$1,200	\$100

And there's your answer (starred). You should solicit four bids because that's your point of greatest net savings, \$300 (\$1,100 savings on material less the \$800 cost of processing). If you solicit fewer or more bids, the cost of processing them will eat up more of the material savings and give you a smaller net.

Now, try the two following problems on your own.

Problem I. Estimating Rejects

Tom Finley, P.A. for the Zeta Zee Mfg. Co., has the job of procuring Hypergear units for a Zeta SL3 production run in September. Production plans calls for the manufacture of five Zeta SL3 Systems a day for 20 days, i.e., a total run of 100. Since each Zeta SL3 requires five Hypergear units, Tom simply would order 500 Hypergears—if there were no problems.

Unfortunately, the sensitive Hypergears don't always survive shipment. In fact, Tom knows that the reject rate can range between 10% and 20%. And because of this, Tom realizes that more than 500 units must be ordered to fill the production run.

The question is: How many more?

The cost of Hypergears is \$40 each under the present vendor arrangement, and there is no rebate for rejects. Each defective unit, therefore, means a loss of \$40. Similarly, unused Hypergears must be scrapped because of poor shelf-life characteristics.

Against these considerations, Tom also must balance the implicit cost of being short of fully operable Hypergears. For example, if a small emergency recorder is needed to fulfill the Zeta SL3 production demands, the unit cost of such a reorder would be \$80.

With all this in mind, Tom reasoned that the optimal order quantity would be the one which minimized the initial order cost plus the average re-order costs. To find the shortage costs, Tom first constructed the following table:

Number Ordered	Reject Rate	Number Rejected	Number Operable	Number Short
550	10%	55	495	5
	20%	110	440	60
570	10%	57	513	0
	20%	114	456	44
590	10%	59	531	0
	20%	118	472	28
610	10%	61	549	0
	20%	122	488	12

This table shows the shortage for a given order size and a given reject rate. Translating this data into average shortage cost by multiplying the number short by the unit shortage cost of \$80, and averaging these results over the two reject rates, Tom came up with another table:

Number Ordered	Reject Rate	Number Short	Shortage Cost	Average Shortage Cost
550	10%	5	\$400	\$2,600
	20%	60	4,800	
570	10%	0	0	1,760
	20%	44	3,520	
590	10%	0	0	1,120
	20%	28	2,240	
610	10%	0	0	480
	20%	12	960	

From this data, Tom was able to determine the optimal order quantity. **How much would you have ordered?**

(Answer on Page 26)

Problem II. Inspection Timing

Tom Finley had another problem in connection with the Hypergear order discussed above. The inspection of the Hypergear would occupy a certain period of time, and Tom wanted to be sure that this inspection would be completed before the production run began.

If the batch contained 10% rejects, then the inspection process would proceed at the rate of 25 units per working day. However, because of the double-testing procedure employed, the inspection rate decreased as the number of rejects rose. For 20% rejects, therefore, the inspection rate was 20 per working day.

Tom's new problem was: **How many working days should he allow for the inspection of 570 Hypergears?**

(Answer on Page 26)

Dow Makes Pipe Liner Of Penton Polyether That Withstands 250F

Midland, Mich.—Dow Chemical Co. has adapted Penton, a chlorinated polyether made by Hercules Powder Co., for use as a corrosion-resistant liner for pipes, valves, fittings and pumps.

Dow said the new liner can be used at higher temperatures than can the Saran-lined pipes and fittings it has been making for the past 14 years. Dow's name for the new product is Pentherm.

Pipes and fittings lined with the new material will cost almost three times as much as those lined with saran, the company said. For example, price of 2-in. Penton pipe is \$6.85/ft., compared with a \$2.64 for a Saran pipe of the same size.

Upper temperature limit for Penton ranges from 225F to 250F. This compares with 180F to 200F for Saran. Distribution of both types of lining is handled by Saran Lined Pipe Co., Ferndale, Mich.

New Anhydride Capacity Coming on Stream in '62

New York — Two companies announced plans to build phthalic anhydride plants.

• **Allied Chemical Corp.**, headquartered in New York City, will build a phthalic anhydride unit on the site of its present plant at El Segundo, near Los Angeles, Calif. Output of the new plant will be marketed by Allied's Plastics Div. which now produces the chemical material at Frankford, Pa., Ironton, Ohio, and Chicago. The Allied phthalic anhydride unit is scheduled to be in production in the latter half of 1962.

• **The Oronite Div. of California Chemical Co.**, a subsidiary of Standard Oil Co. of California, will build a new plant at the California Oil Co. refinery in Perth Amboy, N. J. The new facility will supplement the company's present production at Standard's Richmond, Calif., refinery.



The Big Changeover

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NAPA Dist. 5 Aim: Enhance Purchasing Image

Philadelphia — Members of NAPA District 5 explored ways to enhance the image of the purchasing man at a Saturday idea-swapping session.

Among the steps suggested by local committee chairmen were: initiating more purchasing courses and VASCO programs, and stepping up public relations efforts throughout the area.

D. A. Cook, District 5 vice president, gave P.A.'s this guide rule, "Surround yourself with a working committee, so as to help each member do a better job not only for himself but for his company too." Cook, director of purchases, Mayflower Hotel, Washington, D. C., suggested that more attention might be given to new member introduction and orientation.

NAPA committeemen for professional development, value analysis-standardization, and public relations also participated in the one-day workshop aimed at developing more effective programs for 1961-62.

Plans for Coming Year

Plans for the coming year and committee problems were No. 1 on the professional development group's agenda. Harold A. Berry, national chairman, told P.A.'s, "We want you to take home ideas and we want to know what we can do for you on the local level."

Berry, purchasing manager, Chicago Rock Island & Pacific Railroad Co., Chicago, and R. W. Schackerman, purchasing agent-equipment, Pennsalt Chemicals Corp., Philadelphia, District 5 chairman moderated the morning session. Frank Campbell, Celanese Corp. of America, Charlotte, N. C., District 5 vice chairman, presided over the afternoon session covering school and college programs and personnel training.

The need for aiming and designing courses for the purchasing men who really want them was stressed by many professional development committeemen. Typical comments included: "You can't spoon feed them if they don't want to take advantage of it" and, "We are interested in getting the man who wants to do a good job and raise his post to a higher level."

Out With Gimmicks

The gimmick and medicine-show approach was firmly ruled out by W. J. Pierce, national value analysis-standardization committeeman. The theme for this year, said Pierce, supervisor of staff services, purchasing department, Detroit Edison Co., Detroit, is to put VASCO to work.

P.A.'s have been talking to each other about it too long, Pierce emphasized. "There have been too many fancy programs—but we're not doing enough about putting them into members' companies."

Following through, J. M. Hill, purchasing agent, Steam Div., Westinghouse Electric Corp., Philadelphia, District 5 VASCO chairman, advised that success would be "measured only by the application of these principles in your company."

Group discussion centered on steps involved in establishing such programs. It was agreed

that the P.A.'s approach in selling management would be influenced by the human relations factor. Thus, each situation would have to be evaluated on its own merit.

At the public relations group meeting, R. S. Burnett, national vice chairman, spelled out goals and objectives. Burnett, purchasing agent and secretary, W. E. Caldwell Co., Louisville, Ky., pointed out that public relations was in effect a service group there to publicize VASCO and professional development activi-

ties. E. C. Reid, senior buyer, Metal Products Div., Koppers Co., Inc., Baltimore, District 5 chairman, briefed purchasing men on writing releases and getting cooperation from news media.

At the joint session following the three concurrent workshop meetings, D. A. Cook presented Joseph I. Kelmen, purchasing manager, Merck & Co., Inc., Danville, Pa., and national director of the Central Pennsylvania Assn., with the group's affiliated association charter.



SKULL PRACTICE: Shirtsleeve informality marked the Dist. 5 committee workshops aimed at solving problems and sparking new ideas.



Dallas Perspective



MARVIN REID

P/W Bureau Chief

Focuses a Purchasing Spotlight

On Industry in the Southwest

There are many rocky budget roads ahead, but some nuclear people in the Dallas-Ft. Worth area believe Texas may be on the threshold of becoming the nation's center for nuclear-powered flight vehicles.

If their hopes come true, this area could be to the nuclear propulsion age what the West Coast has been to the jet age.

The Texans' dreams are based mostly on current research and development work at Chance Vought Corp.'s Dallas plant, and on past R&D efforts at General Dynamics' Fort Worth plant. If everything works out the way they hope, the nation's first nuclear-powered missile and airplane will be built and tested here.

All effort at this stage is being put on the missile program since the nuclear plane idea has been terminated for the time being.

CV has been doing considerable R&D work on a project dubbed SLAM (for Supersonic Low Altitude Missile). This project is part of a bigger program designed to give the nation a nuclear-powered missile that will travel at about three times the speed of sound at only 500 ft. altitude. It could, the experts say, speed around the world virtually immune to detection or interception by present-day equipment. The hope is

to have such a missile ready for testing, at the least, by 1965.

The CV group is optimistic about their future role in this missile partly because of previous successes.

They have, to date, landed the only airframe contract plus the principal guidance contract to be let. This fall, they will be bidding with others for the first large contract, for \$15-million to \$20-million, for what is described only as "Phase I" of the over-all program.

Even this contract, however, is considered peanuts to the "follow-ons" that will come later. The big payoff will be the management contract that will come if the missile gets weapons-system status.

While CV is going for the nuclear-powered missile, hope hasn't completely vanished that General Dynamics' Ft. Worth plant will still fly and test the country's first nuclear-powered plane.

• • •

Texas, on Sept. 1, became the 37th state to adopt some form of a general sales tax. The new levy is 2% on the sale of most items costing 25¢ or more. There are numerous exemptions (and much vague language describing what they are), but experts believe the new tax will bring in between \$346-million to \$363-million.

The Texas oil industry, the state's heaviest taxpayer with an annual bill of around \$210-million, will be hit as hard as other industries by the new general levy. Oil people, however, generally supported the new tax in order to keep additional special taxes from being slapped on them.

To show what the tax means to oil, large diameter pipe now costs around \$35,000 per mile. At that figure, the state tax on new pipe lines now will run \$700 per mile, provided the pipe is purchased in the state. The tax will apply to most other items purchased by oil firms, too.

• • •

The Dept. of Justice, in the opinion of some, may be seeking to expand the interpretation of present antitrust laws in a suit it has filed to dissolve the merger of Ling-Temco Electronics and Chance Vought Corp.

The government charges the merger with six violations of the Clayton Antitrust Act under Section 7 of this Act. The action spoke of the merger "lessening competition in the future." This means, attorneys say, that Ling-Temco-Vought, Inc. (the merged firm's new name), will have to look far into the future in defending itself.

Attorneys say Section 7 has never been tested by Supreme Court action although a case under the section is before the court now.

LTV's management said the antitrust action was an "11th hour attempt to use (the merger) as a . . . vehicle to expand the interpretation of the present laws in a way for which there is no precedent." The firm's management said it had kept the antitrust division informed about the merger from the beginning, and was critical that nothing was said until the "11th hour" suit was filed.

FUSSIER THAN MOST ON QUALITY?

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ALUMINUM SHEET



How You Can Use To Help You to Do

The trend toward "scientific" buying (coupled with the growing use of computers) is putting statistical analysis high up on the list of purchasing tools. How well versed are you in basic statistical techniques? If you've given them short shrift in the past, now may be the time to start boning up.

Most large firms deem the statistical approach so important that they have whole sections devoted to the recording and studying of company and industry-wide statistical data. Under constant appraisal are such key subjects as inventories, material costs, prices, and production—both as a guide to day-to-day buying operations and for long-range planning. IBM typifies the new emphasis on statistics. In the picture on the right R. L. Adams, IBM Manager of Corporate Purchasing Administration, alerts purchasing staffers to some new cost trends.

Many smaller firms are also jumping on the "statistics" band-

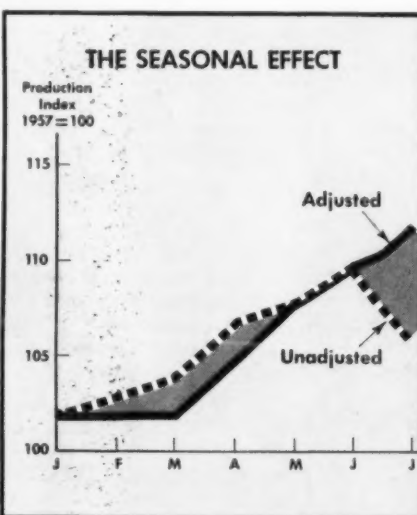
Watch for Seasonal Variation

In most instances, the data used by purchasing departments are influenced by seasonal factors. And if these are not taken into account, serious miscalculations can result.

A look at recently released July industrial output figures, for example, spotlights the danger in taking reported data at face value. Actual physical output (noted as "unadjusted" in the chart below) fell sharply in July.

But this in no way implies a peaking out of production. For the decline is merely the reflection of the usual summer slowdown.

In fact, if you remove this seasonal effect (it's called seasonally adjusting the data) you see that the production trend actually is still up.



The moral is clear: When making month-to-month comparisons, data must take into account variation caused by changes in seasonal patterns if proper conclusions on trend are to be reached.

Unadjusted data (data with the seasonal variation still in) may be safely used for comparisons only when evaluating a given month with the same month a year ago. For then the seasonal influence is the same in both months.

In actual practice the difficulty of getting a seasonally adjusted series differs from problem to problem.

In some instances, where the data under consideration cover an entire industry (sales, inventories, production, etc.), the work already has been done for you by Uncle Sam's

statisticians. For there are thousands of useful business series available for the taking—released each month—with the seasonal factor already removed.

Even when company data are being analyzed, the government can be of help, for the seasonal adjustment factor used for its industry-wide calculations are more than likely applicable to your own firm.

The only problem is to determine the industry seasonal factor. This can be calculated easily by dividing the unadjusted industry figure by the adjusted industry figure.

Example: You make electrical machinery and note that your actual recorded output in January and July came to \$1-million and \$950,000 respectively. The question: Is business going up or down?

The first step is to determine the monthly seasonal adjustment factors from government industry-wide statistics. This means taking the government's unadjusted electrical machinery output and dividing by the government's adjusted machinery output for the months in question.

	(1) 1960 Unadjusted Output	(2) 1960 Adjusted Output	(3) Seasonal Index (1)/(2)
January	116.1	117.5	99
July	102.8	114.4	90

To seasonally adjust your own production figures, divide actual company data by the seasonal index factors calculated above. Thus, your January figure would be $\frac{\$1,010,101}{99}$ (\$1,000,000) and your

July figure would be $\frac{\$950,000}{90}$ (\$1,055,556).

In other words, once the seasonal influence is removed, the figures show that your firm's output actually is rising over the period in question. (If you looked only at the unadjusted data you would have reached the opposite conclusion.)

If it isn't feasible to use one of the government-supplied indexes, you may want to construct your own seasonal index. This is a bit more involved but can be done with nothing more than the use of simple college algebra.

P.A.'s interested in doing this might well refer to a good beginning statistical text covering "analysis of time series."

Beware of Price Distortions

In dealing with figures expressed in dollar terms, extreme care must be taken in evaluating the effect of price changes. This is particularly true when comparing current figures with past data, for current readings are often inflated because of the huge price increases recorded over the past decade.

Inventories provide a good example of how price distortions can creep into calculations:

Let's say you want to measure over-all U. S. business inventory policy over the postwar decade. The first approach might be to examine the ratio of business inventories relative to output.

If the ratio declines (as we might suspect on the basis of current close-to-the-vest buying policy) we would have pretty firm statistical evidence of a long-run trend toward tighter inventories.

A look at reported inventory and output figures over the period covered, however, reveals some surprising results.

The chart below reveals that at the end of 1947 it took \$740-million in inventories to maintain one index point of industrial production. Currently, it takes some \$880-million to maintain one point.

The figures seem to belie actual experience. Are the figures lying—or is there something wrong with our calculations?

On further consideration, it turns out that our figuring is at fault, because we are comparing one set of figures that reflects rising prices (inventories) with another that re-

flects only physical quantity (industrial production).

It's like adding apples and oranges—the result is completely meaningless. Statisticians, however, have devised a way of getting around this problem. They take the price effect out of the data. They call it "deflating the data."

Here's how it would work in the above example:

A look at the general price level for industrial goods from 1947 to the present reveals that tags have gone up about 28% over the period. It's possible to eliminate this price rise when evaluating current inventory policy by dividing the value of current inventories by the current price level (128 if 1947=100). The result is the equivalent of inventories with the price effect removed.

Thus, once you have "deflated," you come up with the finding that today it only takes \$690-million in physical volume of inventories to maintain an index point of industrial production (see chart).

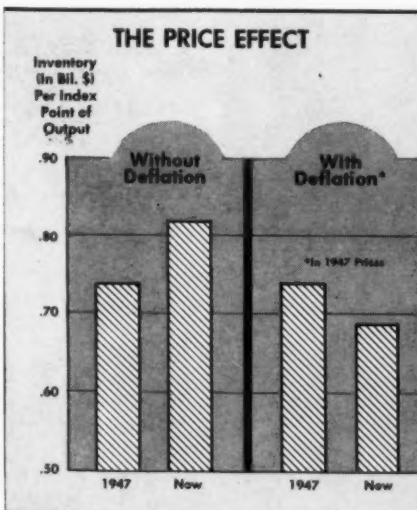
It means that there has been a 7% decline in the volume of inventories relative to production over the postwar period (\$690-million compared to \$740-million). This is in line with the general feeling that better inventory control has allowed American industry to reduce inventories.

This concept of removing the price effect (deflating data) is becoming more and more prevalent in all types of business calculations where the dollar sign is involved.

Any time the term "real" (or "deflated" or "in constant dollar") appears in such a calculation, it implies removal of the price effect. Thus, real income, real purchasing power, real wages, etc. are all illustrations of deflating.

The elimination of distorting price effects is usually much more easy to deal with than the removal of seasonal influences. That's because generally speaking, there are more than enough government price indexes available for deflation.

The government wholesale price index, for example, is made up of over 2,000 industrial prices—separate and in various combinations. In other words, chances are there's a pretty good price index available to you if you want to get the price effect out of a particular series being analyzed.



Charts and Figures a Better Buying Job

wagon. They are finding that for the price of a small amount of effort, a huge return in useful statistical information can be obtained for them.

But statistics is not without pitfalls. Wrong percentages, failure to adjust your data for seasonal variations or deflate your information, or just getting bogged down with a lot of unnecessary arithmetic can often lead to serious errors.

The fact that some really big boners are pulled from time to time has prompted such famous remarks as: "Figures don't lie; liars figure" and "If all the statisticians were laid end to end, it would be a good thing."

But such statements tend to exaggerate those errors that do occur. Usually speaking, mistakes generally can be avoided by following some of the basic rules. A few of them—those most useful to purchasing—are outlined below.



Use The Right Chart

The type of graphs used to analyze data can often make for important differences in over-all conclusions. Actually, there are many different kinds of charts—but for analytical purposes they can be split into two basic categories: (1) arithmetic and (2) log or ratio.

While the arithmetic type (where equal absolute differences show up as equal distances on the chart) is the more familiar one, often the log or ratio chart can convey much more useful information.

The ratio chart is set up so that equal percentage changes show up as equal distances on the chart. For example, if your inventories in one year went from \$10-million to \$13-million (30% gain)—and in the next year to \$16.9-million (again a 30% gain)—the log chart would show an equal rise for both years.

But if the conventional arithmetic chart had been used, the second year (with a \$3.9-million rise) would have shown a sharper rise than the first year where only a \$3-million boost was recorded.

Which is right? Both can be—depending on what you want to find out. The point to remember is this: When the purpose of a study is to analyze relative change, rather than absolute change, the ratio chart is the proper one to use.

While the ratio chart makes use of logarithms, one doesn't have to be a mathematical genius—or, in fact, know very much about logarithmic computations—to use it, for log graph paper is readily available which does most of the "log" work for you. All you do is plot the data in the usual way on this "log paper." The result is a ratio chart.

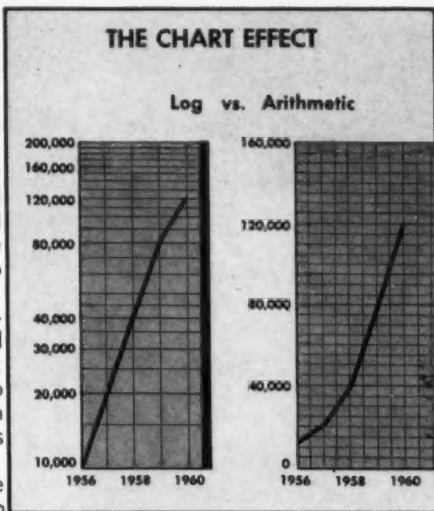
A simple example will illustrate its use. Suppose you are interested in plotting production growth of your firm for a five-year period.

Year	Output
1956	10,000
1957	20,000
1958	40,000
1959	80,000
1960	120,000

Taking the log paper, you plot the years along the horizontal axis and output along the vertical axis as shown at right. At the intersection of 1956 and 10,000 units the first point would be plotted. At the intersection of 1957 and 20,000 units the second point would be plotted—and so on (see chart).

Next join the points. Notice that the line flattens out in the last year. That's because in the first four years' output was doubling (a 100% growth rate)—while in the last year output showed only a 50% gain (40,000 unit increase).

Note that when arithmetic paper is used, the line over the last two years reveals no change in "steepness." That's because there was an absolute 40,000 unit gain in both 1959 and 1960, and would show up the same on an arithmetic scale.



Other key areas where ratio charts are useful:

• **Comparisons**—Many times the basic problem is to compare individual company performance with that of your industry. Since an individual firm often only accounts for a small percentage of the industry, absolute comparisons are meaningless. Only relative performances make sense—hence the use of the ratio chart.

• **Predictions**—Many business trends are complicated and hard to handle when trying to forecast. By plotting them on log paper they tend to become simpler (often turning into straight lines) and hence easier to work with.

• **Speedy information**—Percentage changes can be obtained directly from the ratio chart without any arithmetic calculations, for it can be shown that the steepness of the plotted line at any point on a ratio chart represents nothing more than rate of change.

Use Calculating Aids

The trouble with the statistical approach—according to more than one potential user—is that it involves so much time and effort.

But this need not be so. Statisticians over recent years have developed scores of shortcuts and labor-saving techniques—all designed to take the drudgery out of calculations. Here are just a few that can make your work considerably easier and cut down on the chances of serious error.

• **Tables**—Almost every standard statistical text contains tables which list answers to computations that occur over and over again in easy-to-read column form. Thus, there are tables of squares, square roots, cubes, cube roots, etc.

Some tables have many uses. Thus, the common compound interest table which appear in almost any business arithmetic text can also be used to estimate growth rates. All that's necessary is the substitution of the word "growth rate" where the phrase "interest rate" appears in the table.

• **Formulas**—In some instances there are formulas available that are expressly designed to reduce calculations. If, for example, you had to sum up the squares of a series of consecutive numbers, you could get the result by using a simple algebraic formula—thereby eliminating a lot of useless multiplication (squaring) and addition.

• **Logarithms**—As noted in the charting section on the left, the concept of logs is extremely useful in statistical analysis. In addition to graphic advantages, it can cut down to a considerable degree the complexity of calculations.

The principles of logarithmic theory are surprisingly simple, and can usually be fully appreciated in a matter of an hour or two. It's usually well worth the effort because the use of logs eliminates many time-consuming computations involving multiplication and division.

Say, for example, two large numbers have to be multiplied together. The use of logs would simplify the operation since the multiplication of two numbers can be accomplished by the addition of the logs of both numbers.

The same idea applies to the dividing operation. Division of one number into another can be accomplished by subtracting the log of

one number from the log of the other.

• **Rounding off**—Many people generally tend to "carry more than enough places" when working out an arithmetic problem. It means a lot of extra work—often in return for very questionable accuracy.

Assume, for example, you want an estimate of the annual rise in industrial prices over the last decade. For most industrial purposes, noting that it's 2.0317% isn't of any more value than stating that it's 2%. To be sure, the computational saving in this case is small; but where thousands of such operations are involved, the savings can be substantial.

Many times the carrying of calculations to the extra place can lead to spurious accuracy. Suppose there's a problem of estimating 1961 car consumption of aluminum. If you assume production of 5.5-million cars and per unit aluminum consumption of 62.1 lb., a consumption estimate is obtained by multiplying 5.5-million units by 62.1.

Exact multiplication of these two magnitudes yields an answer of 341.55-million lb. But this is carrying the calculation too far.

Following the ordinary rules of rounding off (based on the number of significant digits in the magnitudes of being multiplied) would dictate a rounded out answer of 340-million lb. Acceptance of any more detailed answer would be meaningless.

• **Other aids**—Many other short cuts are also available to the statistical worker, depending upon the actual problem under study. For example, there are innumerable techniques for manipulating formulas—putting them into a form adapted to today's high speed mechanical calculators. (Use of such calculators is almost a "must" in any sophisticated statistical work. They're relatively cheap—generally only a few hundred dollars each—and make a lot of otherwise "impossible" calculations readily feasible.)

Another important aid at the disposal of the statistical analyst is the "check". Many computations in statistics are set up so that by merely adding another column to your work sheet you have a complete check on numerical accuracy. Such checks also help pinpoint where the error may have occurred.

Industry News in Brief

MPB Buys

Keene, N. H.—Miniature Precision Bearings, Inc., acquired Waf Mfg. Co., Bridgeport, Conn., a designer and manufacturer of precision tools and dies.

McCormick Named

Reading, Pa. — Beryllium Corp. named McCormick Steel Co. to distribute its line of beryllium copper mill products in the south-central states. McCormick has warehouses in Houston, Dallas, Lubbock, Corpus Christi, and Oklahoma City.

Merger Completed

Pittsburgh — Westinghouse Electric Co. has completed its merger with Thermo King Corp., a Minneapolis-based manufacturer of cooling equipment for transport operations.

Peerless Licensed

New York — Thatcher Glass Mfg. Co. has licensed Peerless Tube Co., Bloomfield, N. J., to make plastic squeeze tubes of the type currently produced by Thatcher's Plastic Tube Div. The licensing agreement covers tubes made from polyethylene, linear polyethylene, vinyl, and polypropylene.

Allied Expands

Chicago—Allied Paper Corp. has expanded operations in the business forms field by acquiring Arthur J. Gavrin Press, Inc., New Rochelle, N. Y.

Rowland Licensed

New York—Eastman Chemical Products, Inc., a subsidiary of Eastman Kodak Co., has licensed Rowland Products, Inc., Kensington, Conn., to produce and distribute UVEX plastic sheet. Rowland will make the sheet, which is designed for outdoor sign field, in widths of up to 54 in.

Goodyear to Diversify

Akron, Ohio—Goodyear Tire & Rubber Co. plans to diversify its operations by acquiring Geneva Metal Wheel Co., Geneva, Ohio. Goodyear said it will operate Geneva as a wholly owned subsidiary, subject to approval of the acquisition agreement by Geneva stockholders.

Moore Buys Aetna

San Francisco—Moore Mfg. Co., Inc., a division of Quaker Pacific Rubber Co., has purchased Aetna Mfg. Co., a producer of vinyl cove base and vinyl carpet base for the flooring, tile and building industries. Aetna will continue operations as the Amco division of Moore.

Thatcher Licenses Peerless

New York—Thatcher Glass Mfg. Co. licensed Peerless Tube Co. of Bloomfield, N. J., to manufacture plastic squeeze tubes. Peerless will produce polyethylene, linear polyethylene, vinyl and polypropylene tubes currently manufactured by Thatcher's Plastic Tube Div.

Greenville Signed

Greenville, S. C.—Greenville Textile Supply Co. has been named a new Southeastern distributor by Extremultus, Inc., manufacturers of power transmission belting for the textile and other industries.

Dow Offers New Service

Midland, Mich.—Dow Corning Corp. has set up a new unit to provide engineering service to end users and fabricators of parts

made from silicone molding compounds. Located at the company's main plant here, the new service, called "Application Service Group, Molding Compounds" will help customers in developing end use applications for silicone molding compounds.

Le Roi Consolidates

Cleveland — Westinghouse Air Brake Co. said it will move operations of its Le Roi Div. from here to Sidney, Ohio, where they will be consolidated into the di-

vision's Sidney plant. The transfer is to be completed by next spring. Le Roi makes air compressors, rock drills, and other air tools for the construction, mining, quarrying, and general industrial markets.

Packaging Corp. Buys

Evanston, Ill. — Packaging Corp. of America has acquired Expandable Plastics Co., Akron, Ohio. This is the fourth plastics operation to be acquired or launched by Packaging Corp. since it entered the foam plastics field last December. Other Packaging Corp. foam plastics operations are located in Milwaukee,

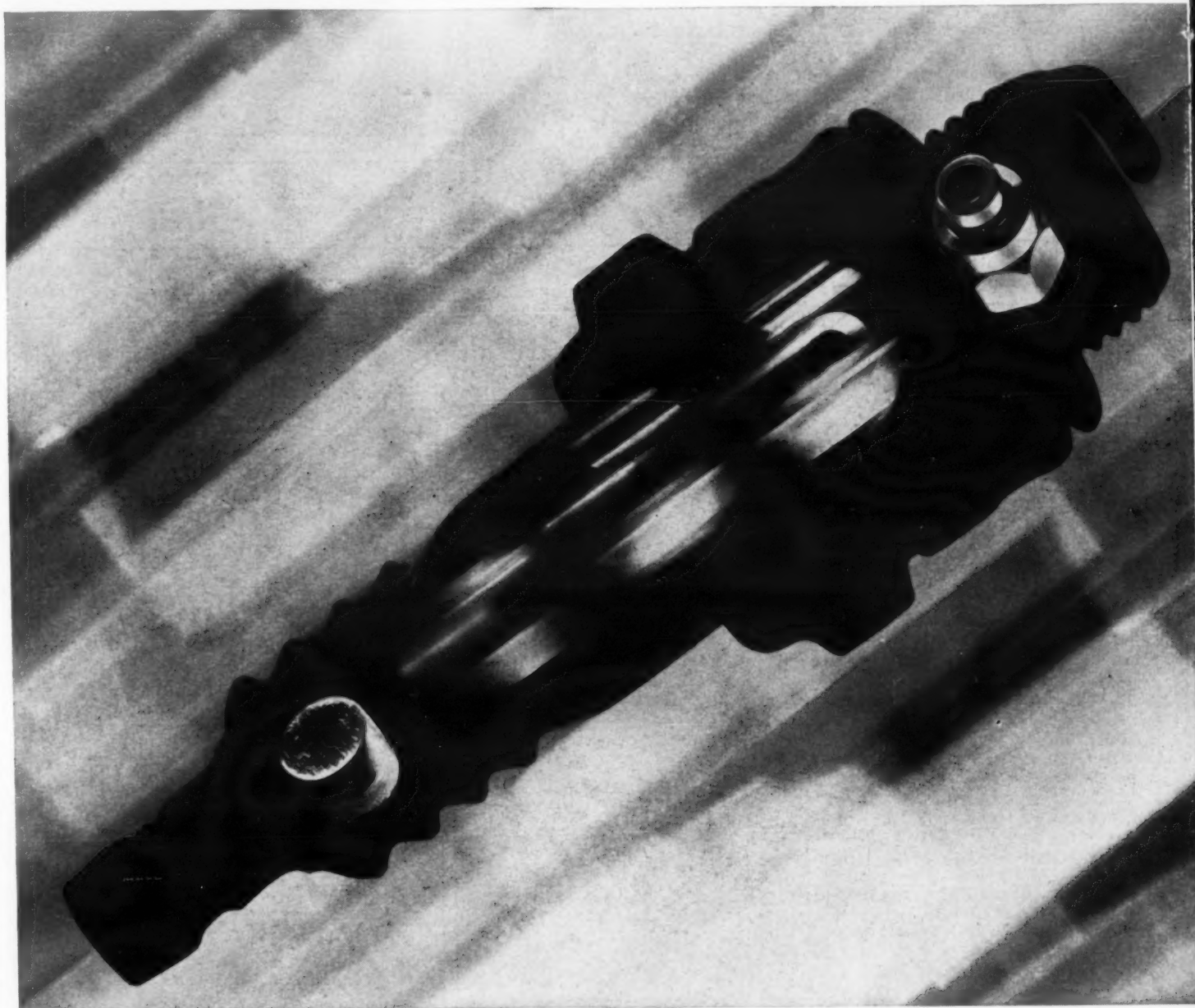
Worcester, Mass., and Vincennes, Ind.

Metals Supply Named

Salt Lake City—Metals Supply Co., Inc. has been appointed a distributor of Kaiser Aluminum sheet, plate, rod, bar and extrusions in Salt Lake City and the intermountain areas including Idaho, Wyoming, and eastern Nevada.

Subsidiary Formed

Chicago—Swift & Co. and Skelly Oil Co. have formed a joint subsidiary, Hawkeye Chemical Co., to build and operate a nitrogen products plant at Clinton, Ia.



Spark Plug Shells: 86% Faster



STRONG
MODERN
DEPENDABLE

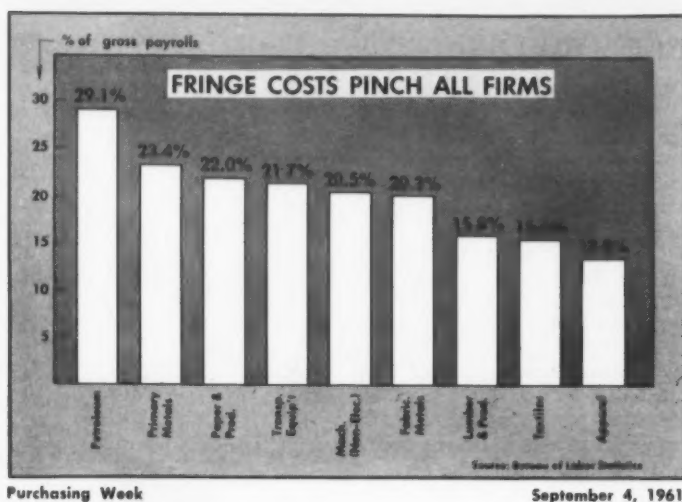
In a mere five-second sequence, machining requirements are trimmed 95%. Material waste is practically eliminated. Spark plug shells are extruded from cold steel.

New on the American scene, this is precision cold extrusion. The rewards are great but the technology can be complex. Read the special report dealing with cold extrusion on the opposite page.

Republic Steel is the nation's largest supplier of carbon and alloy steels for precision cold extrusion—hot rolled, cold finished, and wire. More cold extrusion experience promises to save you time and money.

May we serve you? For complete information, contact your nearest Republic sales office or write: Republic Steel Corporation, Dept. PG-2210-A, 1441 Republic Building, Cleveland 1, Ohio.

REPUBLIC HAS THE FEEL FOR MODERN STEEL



Labor Fringe Benefits Growing Cost Factor

New York — New worker fringe benefits, coming on top of already substantial industry cost are creating a growing squeeze among many producers. For fringes, which already account for as much as 30% of some firms' over-all wage bill, may go even higher.

General Motors, for example, complains that "extra benefits" now cost the company 72¢/hour—four times the 18¢/hr. fringe cost noted in 1947.

This 72¢/hr. figure really takes on significant meaning when cal-

culated as a percent of average straight time pay. Right now, according to the company, fringes are more than 25% of such pay. Put another way—for every 4¢ in straight time that the company pays for a worker, an additional 1¢ goes for fringes.

In dollar terms, according to the company, these extra benefits now cost the company "more than a half-billion dollars a year—or an average of \$124.58 a month for each hourly rate employee."

Fringe estimates by the Ford

Motor Co. show much the same growth picture. According to the firm, its latest cost is 59¢/hr.—a whopping 69% over the cost five years earlier.

And what's true for auto-makers is equally applicable to most other segments of American industry. A comprehensive study just completed by the Bureau of Labor Statistics reveals that manufacturing firms shell out about 20% of their gross payrolls for production worker fringes.

Petroleum at Top

The chart alongside summarizes the cost for major U. S. industries. Petroleum producers are at the top of the scale—allocating some 29.1% of gross payrolls for fringe purposes. On the other end of the spectrum are the apparel and textile industries which show up with 13.8% and 15.6% figures respectively.

A closer look at the government report reveals where the money is going. The biggest item is "paid leave", which comes to about 6% of the production worker payroll (thereby accounting for about 30% of all fringes).

The next largest item is "private welfare plans" (insurance, pension and retirement plans, supplementary unemployment benefits, severance pay, savings plans and bonuses.) This eats up about 5.4% of gross payroll.

An additional 4.5% of gross payroll goes for "legally required payments" (social security, unemployment compensation, and workman's compensation) and 4.3% goes for premium pay.

Gain for Clerical Workers

The huge sums involved are not restricted to production workers. A recent survey for the National Office Management Assn., for example, reveals that clerical workers also are getting substantial increases in fringe benefits.

Thus, today some 41% of U. S. firms pay full premiums on office worker life insurance. Some 37% do the same for hospitalization. Contrast that to a decade ago when comparable figures on full premiums were 28% and 22% respectively.

Clerical worker retirement benefits are also on the increase. Where in 1951 only 57% of interviewed companies had pension plans, today the figure is up to 73%. In addition, the firms are footing more of the bill. Programs involving worker contributions have been decreasing—in contrast to sharp gains in non-contributory plans.

N.Y. Ordnance District Biggest in Procurement

New York — The New York Ordnance District announced that it spent more dollars on Army contracts during fiscal year 1961 than any other ordnance procurement district in the United States.

The New York District spent \$364,206,541, while Boston, the second ranking district, spent \$269,731,714. The Detroit District was a close third with \$265,823,380.

Cleveland, which managed to spend only \$25,351,437, was down at the bottom of the 11-district list.

Trial, Error, and 30% Savings

Precision cold extrusion is slashing steel waste, producing steel parts faster, but you need more than steel

Chief Metallurgist Bill Rodgers (right), Republic Steel Corporation, helps people produce three steel parts for the price of two. It's being done, by a growing number of Republic customers, and a process called cold extrusion.

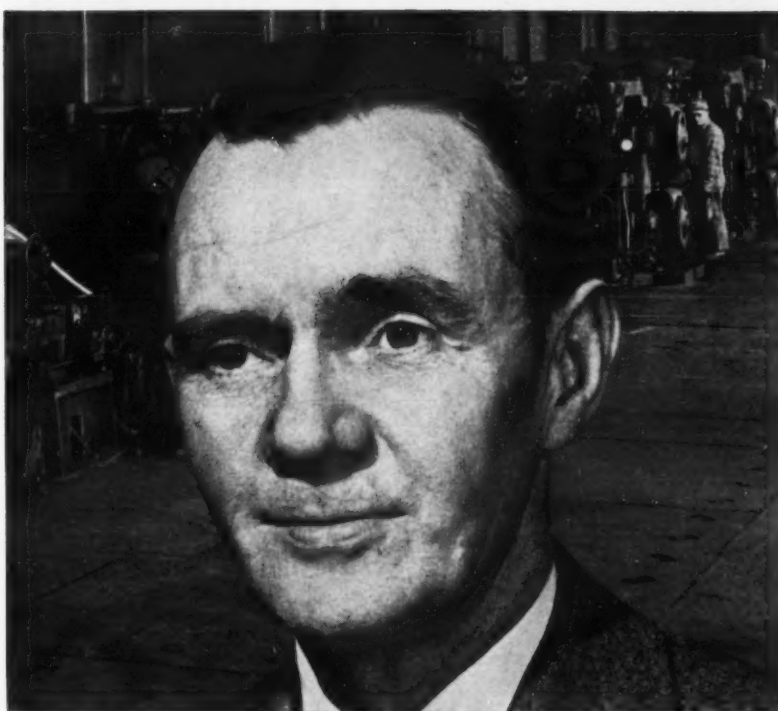
With one of the largest field metallurgical staffs in the industry, Rodgers and Republic are helping customers make the cold extrusion process work. It isn't easy. You need a feasible part design, adequate production run, the right steel, extrusion dies that can deform cold steel without destroying it, and proper lubrication to assure uniform movement. Despite progress, trial-and-error is the rule rather than the exception in determining final die designs and material specifications.

Impact of cold extrusion—"Whether or not the public hears of cold extrusion, they're going to feel it," says Rodgers. "Here is a process that can cut the cost of steel parts by 30-50%. It's especially suited to big production runs—parts produced in the tens or hundreds of thousands. Potential savings are fantastic."

The nation's largest supplier of steels for precision cold extrusion, Republic is involved in two out of every four parts produced by this new method. This experience is utilized to its full advantage by customers. As for steel, Republic has built new facilities (the \$20 million Chicago 11" bar mill, for example), and modernized existing facilities such as the Canton 8" mill, to supply the products needed.

The process—According to Rodgers, extrusion dies are designed to confine and direct the deformation of steel under severe pressure. Completed or nearly completed parts are produced in one operation. Machining requirements are always reduced, often eliminated.

Five great economies—
... Faster production. Steel can be extruded or deformed faster than it can be cut or milled.
... Less handling. Steel for cold extrusion normally enters production equipment in the form of coils and bars, leaves as a finished or nearly finished part.
... Less material waste. One spark



Metallurgist Rodgers

plug shell manufacturer has reduced steel waste by 95%.

... Less machining. The cold extrusion process reduces or eliminates machining. Tolerances and surfaces are excellent.

... Stronger parts. Cold extrusion assures more uniform flow lines of the grains. As the process is a form of cold work, physical properties of the steel are increased.

What kind of steel—"Primary requirement is that steel be properly conditioned and in suitable tempers," says Rodgers. "Chemistries depend on the physical requirements of the completed part and on the capabilities of the cold extrusion equipment. We work with the customer and his equipment supplier in determining the best steel, proper thermal treatment, and design considerations."

According to Rodgers, proper annealing is especially important in cold extrusion. Annealing increases the malleability, uniformity, and internal quality of steel. Because of this, Republic has installed new atmosphere controlled, continuous annealing furnaces in the Chicago 11" bar mill. Hot rolled, cold fin-

ished, or wire drawn steels are supplied in coils, cut lengths, and occasionally in blanks."

Role of tool and design engineers—Parts are normally redesigned to suit or simplify the cold extrusion process. It is the tool and die engineers or the design engineers, according to Rodgers, who most often spot the potential application. With the help of equipment manufacturers and the steel supplier, these men determine precise section changes, required extrusions, and suitable steel chemistries. It remains for the tool and die engineer to design and produce the most important ingredient of all—the cold extrusion dies.

More than steel—"We can supply steel for cold extrusion from any of our bar mills, and from our Union Drawn or wire mills," says Rodgers. "More than that, we offer the technical assistance. Republic is supplying steel used in the cold extrusion of spark plug shells, piston pins, gears, shafts, universal yokes, valve lifters and caps, pivot nuts, missile components, military gun barrels, and many other parts. We do our best to save the customer time and money."

REPUBLIC STEEL

GENERAL OFFICES • CLEVELAND 1, OHIO



Airlines Sponsor Cost-Cutting Medicine Show

Washington—The air transport industry, through its trade group, the Air Transport Assn., has launched a campaign to sell manufacturers on a program of cost reduction. As part of the drive, the ATA has put into the field a team composed of 13 top echelon purchasing executives of leading carriers, plus an association representative.

The major aim of the committee: to share, through in-plant visits, its diversified purchasing knowledge with individual manufacturers on a consultant basis.

Initial efforts, according to ATA, have already begun to pay off. The team's visits have prompted manufacturers to shorten their delivery times and to bear more of the inventory burden formerly carried by the airlines themselves.

To date, the committee has visited several firms, among them Sperry Phoenix (see P/W Jul. 17 '61, p. 24) and Douglas Aircraft.

Says Committee Chairman Charles M. Mathews, manager of purchases at Braniff International Airways, Dallas, "We are trying to sell our suppliers on our need

for cost reduction as a matter of survival. Costs have skyrocketed with jet provisioning and it is getting more difficult to break even. A bigger and bigger percentage of our total costs have been going for supplies."

Here's the way the team works: It goes directly to top officers of "client" companies to make an appeal for vendor assistance as a cost-reduction weapon. Then, it follows up with a two or three day in-plant visit and confers with top engineering, production, and purchasing personnel. The committee

requests the host's top executive officers to sit in at least for the end-of-meeting summation.

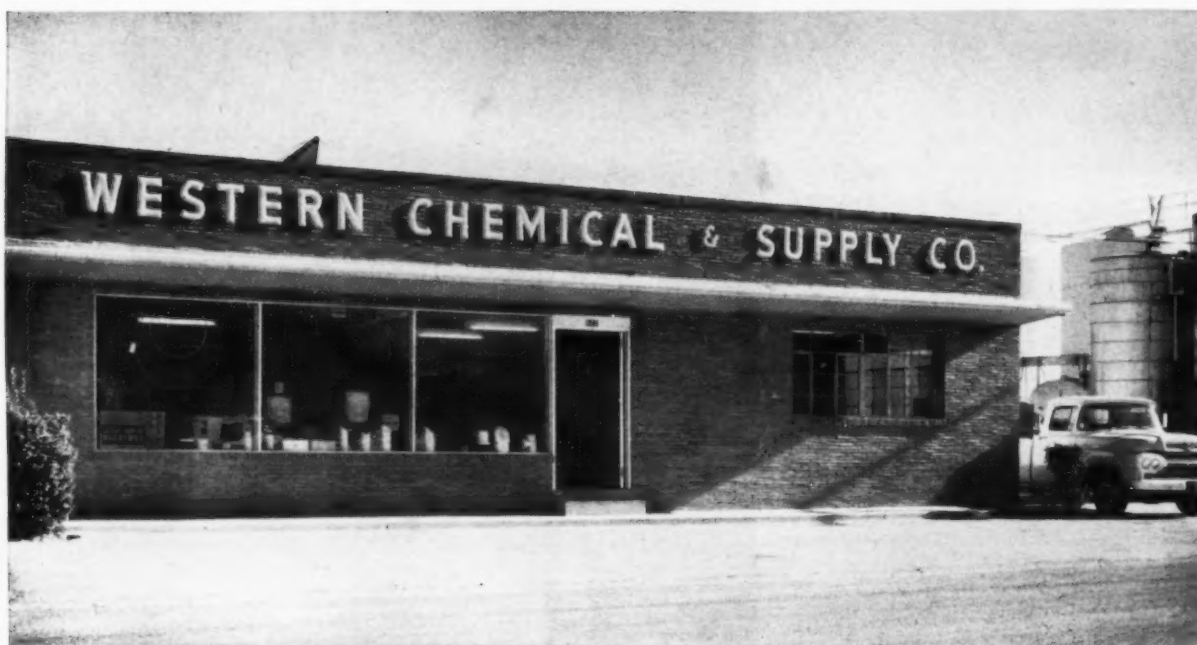
The new and direct team visit method supersedes ATA's earlier cost-reduction technique of inviting vendor representatives to attend the purchasing committee's biennial meetings.

"We found, during the past one and a half years of this, that something was missing," says Mathews. "We needed a harder punch. The visit was too brief, and many were coming for other purposes. At any rate, the vendor rep at the meeting failed to get the message back to the right people with enough emphasis to get results."

Now, with its more aggressive sales technique, the ATA hopes to get manufacturers to adopt their own value analysis programs. To attain that goal, it offers the diversified experience of its team members in planning specifically tailored cost-reduction programs. The committee, in addition to its case work, also gives its host firms an idea what other companies, and such organizations as Value Analysis, Inc., are doing.

"We do not plan to turn a firm loose with only one session, but will go back after about a year to

Chemical deliveries...any time...anywhere ...from Western Chemical & Supply Co.



Oil and gas industry customers have learned that Western Chemical & Supply Company services orders promptly within 150 miles of their store and warehouse locations at Odessa and Borger, Texas, Farmington, New Mexico and Liberal, Kansas.

Western Chemical carries a complete warehouse stock of Mathieson and Blockson chemicals for industry, with emphasis on the needs of oil and gas producers in the Southwest. Because their business is built on fast delivery, Western Chemical & Supply trucks are kept on the go night and day. Maximum delivery time from stock? Within 24 hours.

Prompt service like this is typical of what you can expect from the outstanding distributors handling Mathieson and Blockson chemicals. We will be pleased to tell you about a distributor in your area. For more information, write OLIN MATHIESON, Baltimore 3, Maryland.

Olin
CHEMICALS DIVISION

MATHIESON Chemicals: Ammonia • Sodium Bicarbonate • Carbon Dioxide • Caustic Soda • Chlorine • Hydrazine and Derivatives • Hypochlorite Products • Methanol • Muriatic Acid • Sodium Nitrate • Nitric Acid • Soda Ash • Sodium Chlorate • Sodium Chloride Products • Sodium Methyllate • Sulfur (Processed) • Sulfuric Acid • Urea.

BLOCKSON Chemicals: Trisodium Phosphate • Trisodium Phosphate Chlorinated • Sodium Tripolyphosphate • Tetrasodium Pyrophosphate • Polyphos (Sodium Hexametaphosphate) • Monosodium Phosphate • Disodium Phosphate • Sodium Acid Pyrophosphate • Tetrapotassium Pyrophosphate • Sulfuric Acid • Hydrofluoric Acid • Phosphoric Acid • Sodium Silicofluoride • Sodium Fluoride • Teox® 120 Surfactant.

Western Chemical stores are designed for speed and efficiency. The tanks visible at right hold Olin glycols and ethanolamines. Behind them are storage tanks for Mathieson sulfuric acid.



John A. Lachowsky, salesman; L. M. Adair, vice-president, and A. O. Pickens, general sales manager, talk over the day's orders.



Joe Almaguer heads for the highway with an order of Olin Mathieson chemicals. A large truck fleet makes direct deliveries on a 24-hour basis.



C. M. MATHEWS

evaluate its VA program and the progress this made," Mathews says.

Two of the firms the committee has visited already have reorganized their managements to encompass cost-reduction needs. One has appointed a P.A. to deal, full-time, with airlines' material needs. Another has adopted both the ATA "Spec 200" for data processing, and ATA "Spec 300" for packaging. Several companies have shortened their lead times significantly.

Here are some of the specific results realized by the manufacturers the ATA has visited:

- Improved their inventory levels and delivery times.
- Established price review boards and value-analysis teams.
- Agreed to make their prices effective a minimum of six months, and give 30-90 days notice of price changes.
- Improved their order administration.

The committee also is encouraging manufacturers to carry more shelf stock and larger inventories to support the carrier companies' aircraft. And it has asked them to review their minimum-maximum inventory formulas, after finding that one manufacturer was still using a 20-year old formula.

Main emphasis given by the team has been on delivery and support problems. Mathews points out that shortages and delayed shipments take an immediate toll in the form of grounded flights, increased shop-costs. Mathews finds that "going to their home bases has proved much more effective" than the former method of getting vendor companies officially enthused about cost reduction through VA and similar purchasing techniques.

"From the benefits already gained and the results we are receiving, there is no other outlook but that this committee will continue to function," he says. "It has a definite place in our relationship with our suppliers. We foresee an even more effective relationship with them, in fact, because of the experience we are gaining from these meetings. We will be able to work closer with suppliers and cooperate to get better performance and product support."

New Plants, Expansions

IM&C to Boost Output

Skokie, Ill.—International Minerals & Chemical Corp. announced plans for a \$10-million expansion of production facilities at the potash mine project of its Canadian subsidiary. Company said the expansion would boost output potential from 420,000 tons to 1.2-million tons of potash annually. Initial production from the shaft at Esterhazy, Saskatchewan, is expected by early summer of 1962.

International Builds

Yukon, Pa.—International Paper Co. began construction of a new 118,000-sq.-ft. plant to be built by the company's Container Div. The new installation, to be completed early next spring, will supply corrugated shipping containers to the tri-state area of western Pennsylvania, eastern Ohio and West Virginia.

Texaco Opens Plant

River Rouge, Mich.—Texaco, Inc., opened a fully automated plant here for blending industrial and consumer lubricating oils for the Midwest market. Texaco said the new plant will provide special advantages for area firms requiring fast delivery of specialty lubricants.

Fastener Builds

Franklin Park, Ill.—Fastener Corp. is building a new plant here, which it said will almost triple the company's facilities for manufacturing staplers, tackers, nailers and staples.

Wheel Trueing Buys

Detroit—Wheel Trueing Tool Co., a manufacturer of industrial diamond tools, has acquired Drilling & Service, Inc., Dallas, which since 1946 has acted as Wheel Trueing's marketing outlet in the oil field drilling industry. Detroit company said the acquisition will better coordinate manufacture and research with sales and service in the field.

CI Buys

Commack, N.Y.—Certified Industries, Inc., leading Long Island concrete producer, has acquired Northern Lightweight Aggregate, Inc., Cohoes, N.Y. Northern is one of the prime suppliers in New York and New England of lightweight aggregate for making concrete that is lighter in weight but comparable in strength to regular concrete.

New Firm Formed

Minneapolis—A new company, Mooney Brothers-Minnesota Corp., has been organized here to distribute fluid handling equipment in Minnesota, North and South Dakota and western Wisconsin.

Alloys to Buy

Long Island City, N.Y.—Alloys Unlimited, Inc., plans to acquire Bow Solder Products Co., Inc., New York. Alloys Unlimited, which specializes in hyperpure metals for the semiconductor industry, said the acquisition will enable it to apply its techniques to the manufacture of rigidly controlled solder for the electronic industry.

Northwest to Expand

Anacortes, Wash.—Northwest Petrochemical Co. said it will increase capacity of its plant here by one-third. Completion of the expansion program is expected by the end of the year. The plant produces cresols and phenols from spent caustic obtained from oil refineries.

Clevite to Expand

Cleveland—Clevite Corp.'s Cleveland Graphite Bronze Div.

plans a major expansion of warehousing facilities here. The firm is converting an existing general purpose building at the division's headquarters plant into a 162,000 sq. ft. warehouse which will be used for bearing stocks for both original equipment and replacement parts markets.

Arwood to Build

Cleveland—Arwood Corp. said it will open a new investment casting plant here early in 1962. The facility, which will be the

company's sixth, will be a fully integrated foundry for casting ferrous, cobalt and nickel base alloys.

MSC Adds Furnace

Flowood, Miss.—Mississippi Steel Corp., producer of reinforcing bars, said it will double capacity of its plant here with the addition of a 12-ton electric furnace. The expansion is scheduled for completion by the end of the year.

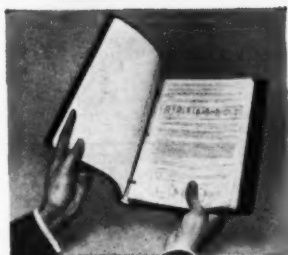
Monsanto to Build

St. Louis—Monsanto Chemical Co.'s Inorganic Chemicals

Div. will begin construction early next year of a plant at Augusta, Ga., to produce raw materials for detergent, fertilizer, and metal treating industries. Facility is scheduled to go on stream early in 1963.

Pennsalt Expands

Philadelphia—Pennsalt Chemicals Corp. has begun work on an expansion project at its alkyl amines unit at Wyandotte, Mich., which will nearly double the plant's capacity for ethylamines, isopropylamines, and butylamines. Firm said the expanded unit will be the largest in the world of its type.



WILSON JONES 339-LINE FLEXIBLE RING BOOKS

Snap the rings open and closed. Roll back the covers without fear of cracking them. Never before such quality in a medium-price ring book. All made possible by Wilson Jones construction: handsome black Levant grain simulated leather over soft double cover boards...opening triggers on all sizes*...steel ring-protector strips... pressboard end sheets...plus sewed-in pocket in back cover. 3 sizes...all with 3 rings. Ask your stationery or office supply salesman to show you one of these new Wilson Jones Flexible Ring Books today.

*2" capacity has opening and closing triggers.



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Purchasing Week's Professional Perspective



CONSULTANT ROBERT C. KELLY

Former Director of Purchases, Dresser Industries
Interprets This P/W Headline:

**'Truck Sales Highballing Along;
Backlogs Reported Building Up'**
(P/W 6/19/61)

The purchasing agent who is faced with the truck procurement problem will find that this task will employ all of his best buying techniques.

First, there are no generally published list prices and discounts on heavy trucks and accessories. This means that this type of purchasing is done by negotiation. But it is not price buying, it is essential that the buyer prepare rigid specifications before sending out requests for bids and starting negotiations.

Of the major sources of supply of heavy trucks only one is affiliated with the automotive Big Three. Distribution patterns follow more closely the traditional closed contracts with the manufacturer through factory branches and distributors.

The seasonal and model year factors present in automobile buying do not come up in considering heavy trucks. Models do not change materially from year to year. Instead, manufacturers build units to customers' specifications using standard

components built by specialists such as independent manufacturers of bodies, air brakes, clutches, doors, gates, hoists, lighting systems, tail gates, tanks, transmission, and unloaders.

Before attempting to write a specification on equipment for a trucking operation, you must first tabulate the operating conditions which involve compliance with federal and state laws concerning width, length, height, and maximum permissible weight per axle. Along with these restrictions, consider too the type of cargo to be carried, number of daily trips, annual mileage, road conditions, and so on.

Unlike passenger cars which are replaced every year or two, heavy trucks will get much longer use—five years being the minimum and 10 years not uncommon. If properly maintained, heavy trucks will give this service economically. For example, Safeway Stores, which operates a large fleet of company-owned trucks to transport food products from district warehouses to neighborhood supermarkets, runs its trucks 500,000 miles before retiring them from service. And this is not an unusual practice.

One of the important optional choices in buying a heavy truck is deciding among gasoline, diesel oil, or liquid petroleum gas engines. Diesel units are more expensive to buy, but provide less maintenance expense and, since fuel is cheaper, lower operating costs. Butane trucks, mainly operated in the West and Southwest where this type of fuel is available, are probably the most economical fuel users, but require trained personnel to handle them. Also, there are hazards involved which affect safety, performance, and insurance costs.

Tires should be the best grade. For severe service, steel cord tires instead of nylon are advisable. Several domestic companies, as well as Michelin of France, make this type.

To sum up, the primary rule in buying heavy trucks is to buy quality and then run the wheels off them—using sound maintenance practices to help prolong their useful life.

When retiring heavy trucks, disposing of them is unlike marketing used cars. Many old trucks end up for seasonal low mileage operations such as hauling cattle to local markets. Most are stripped for useable parts and then junked.

In the past there was an export market for certain types of heavy trucks, particularly four-wheel drives, widely used in the oil fields. But import restrictions on used equipment have pretty well dried up this outlet. Of course, you should figure any return received on retired heavy truck as extra income, since by the time they are withdrawn from service, these vehicles are fully depreciated and written off the books.

Meetings You May Want to Attend

NEW LISTING

NAPA, District 6—Purchasing Conference, Pittsburgh Hilton Hotel, Sept. 14-16.

Society of Plastics Engineers—"Plastics for Tooling", Central Indiana Section, Hotel Severin, Indianapolis, Sept. 12.

Electronics Industries Association—Biltmore Hotel, New York City, Sept. 12-14.

Packaging Machinery Mfrs. Institute—29th Annual Meeting, The Homestead, Hot Springs, Va., Sept. 14-16.

Cast Bronze Bearing Institute—Annual Meeting, Shawnee Inn, Shawnee-on-Deleware, Pa., Sept. 21.

American Welding Society—Fall Meeting, Hotel Adolphus, Dallas, Sept. 25-28.

American Die & Casting Institute and Die Casting Research Foundation—Edgewater Beach Hotel, Chicago, Sept. 27-28.

American Standards Association—12th Na-

tional Conference on Standards, Rice Hotel, Houston, Tex., Oct. 10-12.

Previously Listed

SEPTEMBER

International Industrial Conference—San Francisco, Sept. 11-15.

Southeastern Show—Plant Maintenance and Engineering, War Memorial Coliseum, Greensboro, N. C., Sept. 12-14.

Miami Valley Industrial Show—Purchasing Agents Assn. of Dayton, Montgomery County Fairgrounds, Dayton, Ohio, Sept. 14-16.

NAPA, District 6—Purchasing Conference, Sheraton-Pittsburgh Hotel, Pittsburgh, Sept. 15-16.

Standards Engineers Society—10th Annual Meeting, Hotel Sherman, Chicago, Sept. 18-20.

Answers to Strategy Problems on Page 16

Answer to Problem I

The over-all cost associated with a given order size is the sum of the initial procurement cost plus the average shortage cost. The initial procurement cost is found by multiplying the order size by \$40, the unit cost. The average shortage cost is given in the last table which Tom worked out. Therefore, the over-all costs are:

Number Ordered	Initial Procurement Cost	Average Shortage Cost	Overall Cost
550	\$22,000	\$2,600	\$24,600
570*	22,800	1,760	24,560*
590	23,600	1,120	24,720
610	24,400	480	24,880

The optimal order size is 570 Hypergears, starred.

Answer to Problem II

The following table supplies the necessary information:

Reject Rate	Inspection Rate	Inspection Time	Average Inspection Time
10%	25 per day	20.8 days	24.7 days
20%	20 per day	28.5 days	

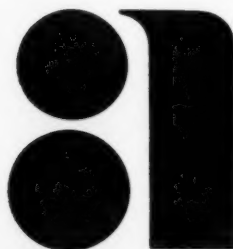
The average inspection time is nearly 25 working days. However, to be certain of completing the inspection process, Tom should allow for the maximum time of 28½ days.



Ansul extinguishers are perennial favorites with America's largest companies and most knowledgeable fire protection experts. There's a reason: they last longer, cost far less to maintain...and pound for pound, dollar for dollar they put out more fire.

ANSUL

ANSUL CHEMICAL COMPANY
MARINETTE, WISCONSIN



our catalog describes the complete ansul line of listed and approved extinguishers—hand portable, wheeled, stationary, mobile and automatic systems... dry chemical, carbon dioxide and water... write for it!

Humidifier housing



Custom molded by CMPC

APPLICATION: Rust, corrosion and temperature resistant housing for automatic residential humidifier. Phenolic molded by CMPC.

ADVANTAGES: While developing the concept of a superior new high-capacity humidifier—the Aprilaire®—Research Products Corporation engineers consulted CMPC. The result is this compact, lifetime unit with motor housing, drain pan and distributing pan molded as integral parts of the main housing. In addition to providing the durability needed, this CMPC-molded housing helps give the unit quieter operation... permits greater accessibility for inspection... and affords the Aprilaire a neater, trimmer appearance. Specify CMPC... custom molders for over 40 years.

CMPC CHICAGO MOLDED PRODUCTS CORPORATION
1020-H N. KOLMAR AVE. CHICAGO 51, ILLINOIS



Dryer baffle Custom molded by CMPC

APPLICATION: Molded baffles hold "feelers" that signal the electronic "brain" of Maytag's new Automatic Dryer. The 3 baffles are compression molded cotton flock-filled phenolic.

ADVANTAGES: There's no more guesswork or possibility of overdrying clothes with this new dryer. An electronic control actually feels the degree of moisture in fabrics—shutting the dryer off at the exact moment, or starting a controlled cool-down period of tumbling. Key components in this outstanding development are the baffles to which the minute "feelers" are attached. Long life and efficiency of the CMPC-molded baffles are achieved by great resistance to moisture, heat and impact. Specify CMPC... custom plastic molders for over 40 years.

CMPC CHICAGO MOLDED PRODUCTS CORPORATION
1020-H N. KOLMAR AVE. CHICAGO 51, ILLINOIS

Product News in Brief

Market Switchboard

Atlanta—Walker Div. of I-T-E Circuit Breaker Co. is marketing a free-standing metering switchboard which accommodates almost twice as many meters as wall-mounted units in half the space.

Primary sections have a main disconnect and up to 18 each of meter bases and distribution disconnects. Distribution sections add 24 additional meters when needed, forming a perfectly matched lineup with the main section. Each section measures 32 in. wide, 13½ in. deep, and 72½ in. high.

All bussing from line side of main disconnect to load side of distribution disconnect is factory-assembled within the unit. This eliminates the need for any interior wiring, cutting installation time and costs. Contractors supply service entrance cable and distribution wire from the board to each office.

Photo Printing Process

Chicago—Fotorite, Inc., has developed a photo printing process for industry use that delivers finished prints in 5 to 15 sec.

Negatives to be printed are ex-



posed on a special photographic paper with a standard contact printer and enlarger. The paper

then is fed through the Fotorite processor which turns out a finished, semi-dry print of up to 11 in. x 14 in. Photographic paper is available in three weights; glossy and semi-matte finishes; smooth and pebble-grain finishes; and in white, cream, and ivory colors.

EDP System Unveiled

Monrovia, Calif.—Datex Corp. has come up with a management data acquisition system for collecting accounting and produc-

tion facts as they occur. Input stations cost \$1,250 and the recording station \$5,500 to \$6,500, depending on options.

The input station accepts pre-punched IBM cards, identification cards or badges, and external data for transmission to the central station where it is recorded on punched tape, or punched cards, in computer language. Data at the central station is quickly processed to provide reports and summaries on which management can evaluate performance, cut costs, schedule

operations, and control inventory more effectively.

Set 'Talks' with Univac

New York—Univac Div. of Sperry Rand Corp. has developed a computer input device which lets tellers in branch banks communicate with a central Univac 490 Real-Time System.

A teller inserts a savings bankbook in the Unisaver device, which transmits account number, amount of transaction and other pertinent data to the computer in which bank records are stored. The computer updates the information and transmits it back to the branch's Unisaver, which re-

cord's and prints the transaction on a journal tape and in the bankbook simultaneously. The system can handle up to 50,000 transactions per hour.

Develop New Carton

St. Louis—Bemis Bro. Bag Co. is offering a disposable carton, called Liquatainer, with a pliable film liner for liquid or semiliquid products. The company also has developed a machine to fill and close the container.

One of the first applications is for distilled water. An integral pour spout can be reclosed and all sides offer excellent printing surface.

PQA*

**gives you better
stainless products!**



ALLEN Stainless Steel Cap and Set Screws

- NON-CORRODING
- HIGH TENSILE STRENGTH

- HEAT RESISTANT
- BRIGHT, LUSTROUS FINISH

Allen offers you 190 stock sizes in Stainless Steel Socket Head Cap Screws, now available as standard items in Type 18-8 Stainless or equivalent quality with '60 Series or '36 Series head diameters. Sizes range from No. 0 x ¼" to ½" x 3", inclusive. Smooth heads supplied unless grip heads are specified.

Stainless Set Screws with deep-driving, tight-holding ALLENPOINT are available in 54 standard sizes from No. 0 x ¼" to ½" x 1", inclusive.

When designs call for bright finish and ability to stand up to corrosion, you'll find Allen the answer in the largest range of sizes.

*PRODUCT QUALITY ASSURANCE



PQA, symbol of unquestioned quality at Allen, stands for constant quality control from upgrading of incoming raw materials to shipment of unconditionally guaranteed finished products.

PQA goes further. It brings you such helpful information as this STAINLESS STEEL DATA (G22) brochure, comparing stainless steel alloys according

to advantages, limitations and applications. It lists chemical composition and mechanical properties of 40 widely used stainless alloys; gives comparative corrosion resistance to various media, elevated temperature service data, and other characteristics of stainless steels.

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Genuine ALLEN products are available only through your ALLEN Distributor. He maintains complete stocks close by to help cut your freight costs, inventory, warehousing and handling. He offers fast, single-source service. He knows ALLEN products. And he makes ALLEN Engineering Service available to you. Call him!

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Where Can I Buy?

Some products are easy to locate, others difficult. Perhaps you can help one of our readers who knows exactly what he wants, but doesn't know where to get it. And keep in mind that you can make use of this PURCHASING WEEK service at any time.

While you are answering our reader's request, would you also send us a carbon copy of your answer?

"I would appreciate your cooperation in locating a source of supply for a prime coated laundry chute hinged access door. We are aware that several companies manufacture laundry chute doors, but they are the type that push into the wall.

"We are mainly interested in the type that would be used in conjunction with this push-in type, to remove the articles of clothing at the bottom of the chute—in other words, a 'hinged-type' door."

William Pollack
Production Manager
Olympic Building Prod. Co., Inc.
56 Alabama Ave.
Island Park, L.I., N.Y.

Product Perspective

PAPER MAKERS are combining wood pulp with a variety of unconventional materials to make "exotic papers" with outstanding chemical and physical properties. And these products aren't all headed for the writing and wrapping markets—industry experts see a big market ahead for paper textiles, construction materials, and specialized technical products.

Paper made of metallic fibers, asbestos, glass, ceramics, acrylic fiber, nylon, teflon, polystyrene and many other noncellulosic materials are already here—either in the development or production stage. The experts say paper can be made of any raw material which exists as a natural fiber of the proper dimensions—or can be converted to fibrous form.

Redoubled research efforts hold the key to winning new markets, according to the paper people. The industry spent \$60-million on research last year, a 400% increase over the amount spent only a decade ago. The big producers are putting up extensive facilities. Mead Corp., for example, put up a \$4,500,000 lab in Chillicothe, Ohio, last June.

The researchers are following two somewhat parallel paths; the first, aimed at improving conventional papers; the second, at developing so-called exotic papers—those made of non-cellulosic materials. Some of the "exotics" now under development include:



CERAMIC FIBER PAPER withstands high temperature of blowtorch—it's used in jet plane tailpipes.

- **Glass paper.** Contains up to 4-million fibers per sq. cm. (compared to 4,000 in ordinary paper) and makes an excellent filter. This paper protects against radioactivity in atomic energy installations and serves as a bacterial filter in medical labs, where it permits only one in 500-million organisms to pass through.

- **Ceramic paper.** Can withstand temperatures up to 2,500 F and is used in jet plane tailpipes.

- **Teflon paper.** Is resistant to a wide range of chemicals. Can be boiled in sulfuric acid or caustic soda without disintegrating.

- **Lead, zinc and silver papers.** Retains electrical properties of respective metals. All three are under development for use as battery plates.

- **Aluminum paper.** Used in capacitors and heating elements to give electrically conductive surface with heat dissipating properties.

- **Acrylic fiber paper.** This first cousin of Orlon or Acrilan used in clothing serves where resistance to chemicals, dimensional stability and improved electrical characteristics are required. Transformers, printed circuit substrates, and chemical filters are three prime markets.

- **Asbestos fiber paper.** Structural material was developed for the construction industry and is used in laminates that must resist high temperatures, flame, and extreme weather conditions.

- **Glass fiber paper.** Sheet consisting of 64% glass fiber and 36% cellulose is used to make laminates with extraordinary impact and flexural strength.

In addition to working on these exotic papers, the industry is setting its sights on a potentially greater market—paper textiles. Certain paper producers recently have joined forces with textile companies to develop this new field. Mead and M. Lowenstein & Sons have just announced such a program.

Paper coveralls and bibs are already on the market and paper linen and clothing (where relatively little styling and tailoring is required) will be coming shortly. Paper producers believe that making textiles on a paper machine by the usual wet laid process is potentially cheaper than conventional spinning and weaving. Disposable textiles will only be one result of such a process—a paper shirt that can be washed 30 times is said to be feasible.

While paper textiles will give the industry vast new markets, other projects are also in the works, including:

- **Paper laminates similar to those now used on countertops** (Formica type of material) for jobs as structural elements in home construction. They will be weather-resistant and dimensionally stable.

- **Improved papers for office copying machines** that will turn out copies superior to those obtainable today.

- **Coated stock for making newspapers whiter and brighter.**

- **Plastic-paper combinations combining the best properties of both materials.** A new forming board intended to replace a number of metal parts in automobile bodies is in the offing.

One of the advantages of the paper industry is that the basic raw material (wood) is self-replenishing. Producers are taking this a step further in new studies aimed at producing fast-growing trees with exactly the right fiber characteristics for papermaking.

Here's your weekly guide to...

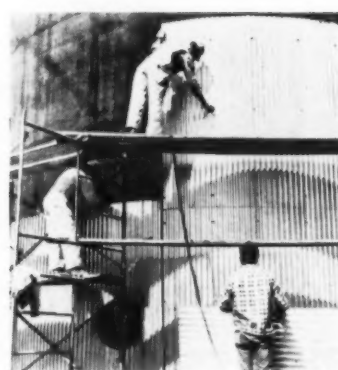


Ring Binder

Holds 350 Sheets

Binder of 20-point pressboard and with 1-in. capacity rings holds about 350 sheets. An embossed panel runs from the front cover, across the spine, and onto the back cover for better identification. The three-ring mechanism is made of steel and has boosters on each end for easy opening.

Price: approx. 90¢. **Delivery:** immediate. **Acco Products, Ogdensburg, N. Y. (PW, 9/4/61) SIC #2782**



Insulation Panel

Has Aluminum Facing

Insulation panels about 50 in. x 100 in. have a sheet aluminum facing for weather resistance. Insulation thicknesses range from about 1½ in. to 2 in. in densities from 4 lb. to 6 lb. Panels are predilled for threaded studs which are supplied along with nuts and washers for fastening to metal surfaces.

Price: approx. 30¢ to 50¢/sq. ft. **Delivery:** immediate.

Johns-Manville, 22 E. 40th St., New York 16, N. Y. (PW, 9/4/61) SIC #2952

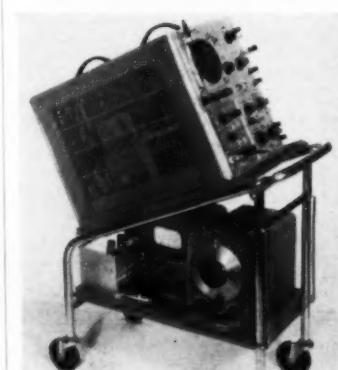


Soldering Pot

Strips and Tins Wires

Electric soldering pot with a maximum temperature of 1,000 F simultaneously strips and tins plastic-insulated wires and leads on small parts. The 150-w. unit has a ⅞-in. inner dia. and ¼-in. to 3½-in. depth. Solder capacity is ¾ lb. An adjustable thermostat is available to maintain best operating temperatures for precision work.

Price: \$16. **Delivery:** immediate. **Electric Soldering Iron Co., Inc., Deep River, Conn. (PW, 9/4/61) SIC #3548**

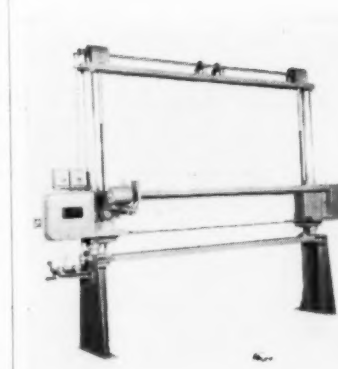


Mobile Cart

Holds Oscilloscope

Cart with 4-in. swivel caster wheels for easy mobility accommodates oscilloscope and auxiliary equipment. The frame is steel tubing and trays are of 20-gage cold rolled steel. The top tray is angled at a 25-deg. tilt. Over-all size of the unit is 29 in. high, 15-in. wide, and 27-in. long.

Price: \$29.95. **Delivery:** immediate. **Atlantis Metal Products, P. O. Box 451, Garland, Tex. (PW, 9/4/61) SIC #3537**



Splitting Head

Levels Plastic Foam Blocks

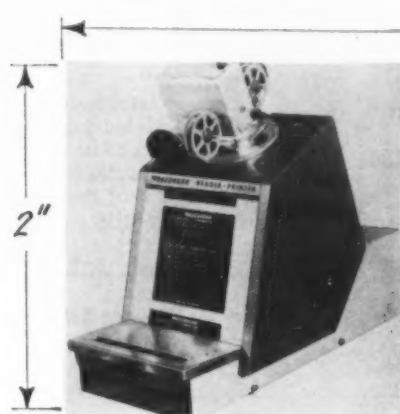
Splitting head splits and levels rigid or flexible blocks of plastic foam and other materials. It is available in 50-in., 60-in., 72-in., and 80-in. standard widths for use singly or in series along existing conveyor systems. The cutting knife is adjustable from ¼ in. to 42 in. above the conveyor system. Clearance over the knife bar is 12½ in.

Price: \$3,400. **Delivery:** 8 to 12 wk. **FEMCO, 1734 Front St., Cuyahoga, Ohio. (PW, 9/4/61) SIC #3559**

New Products

Price data that accompany each product description are list or approximated prices supplied by manufacturers. Unless otherwise noted, prices quoted are for the smallest quantity that can be ordered.

Picture aids product recognition



Reader-Printer

Makes Prints From Microfilm

Instrument delivers 8½-in. x 11-in. prints of documents recorded on 16-mm. or 35-mm. film in roll form, acetate jacket, or aperture card. Image size is 7 in. x 9½ in. Pressing the print button produces a print automatically in about 45 sec. but the reader can be used for viewing in 25 sec. Cost per print, including chemicals, is 9¢.

Price: \$895. **Delivery:** 30 days.
Recordak Corp., 415 Madison Ave., New York 17, N. Y. (PW, 9/4/61) SIC #3861

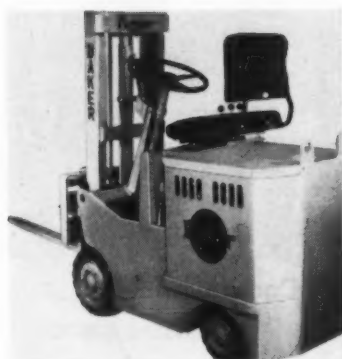
Size permits you to paste on 3"x5" card

Copy gives only pertinent details

How much it costs and how soon you can get it

You'll know when item appeared

NEW SERVICE: SIC FILING NUMBER



Fork Lift Truck

Has 2,000-lb. Capacity

Fork lift truck with 2,000-lb. capacity is powered by a standard 18-cell, 15-plate battery that provides 36 v. An opening in the frame provides easy access for controller servicing. Lift mast is 130 in. and turning radius of the truck is 59 in. Contoured, foam rubber driver's seat has a swivel back-rest.

Price: \$5,750. **Delivery:** 2 wk.
Otis Elevator Co., Baker Industrial Trucks Div., Cleveland 2, Ohio. (PW, 9/4/61) SIC #3537

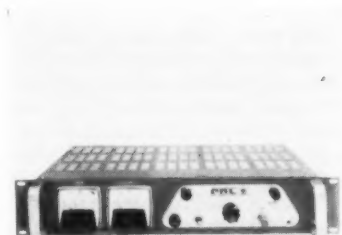


Magnifying System

Eliminates Eyestrain

Magnifying system with fluorescent lighting permits continued use for quality checks and precision assembly without eyestrain. A flat viewing field eliminates distortion and transmits true colors. A magnification amplifier doubles the 2.5x system to 5x; 3.5x system, to 7x. A 22-w. circular lamp provides shadowless lighting.

Price: \$199.50. **Delivery:** immediate.
EdnaLite Research Corp., 222 N. Water St., Peekskill, N. Y. (PW, 9/4/61) SIC #3831

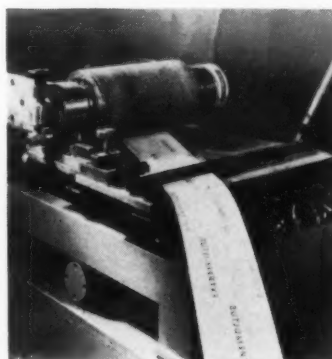


Power Supply

Offers 60-v. Output

Transistor-regulated power supply comes in six models with three output voltage ranges: 0 to 18 v. at 8 amp. and 12 amp.; 0 to 36 v. at 3 amp., 5 amp., and 8 amp.; 0 to 60 v. at 5 amp. All models take 3½ in. panel height and offer 0.01% regulation. They feature remote sensing, remote programming, and series and parallel operation.

Price: \$335 to \$645. **Delivery:** immediate.
PRL Electronics, Inc., 232 Westcott Dr., Rahway, N. J. (PW, 9/4/61) SIC #3679



Lap Grinder

Splices Transmission Belting

Lap grinder splices manufacturer's polymeric transmission belting on a 30-deg. angle for increased splice strength and flexibility. It is available in a standard 6-in. width for customers to prepare their belt lengths to special requirements. Another model is available in a 20-in. width.

Price: \$480 and \$980 (20-in.). **Delivery:** 5 wk. (immediate in 3 mo.).
Extremultus, Inc., 130 Collidge Ave., Englewood, N. J. (PW 9/4/61) SIC #3541

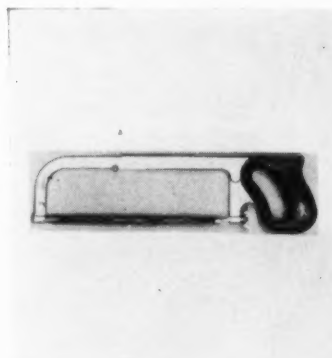


Welding Helmet

Gives Wide Vision

Fiberglass welding helmet with 4½-in. x 5¼-in. lens provides a 120% greater field of vision than the smaller 2-in. x 4¼-in. size. The lightweight unit weighs 22 oz. Standard features include plastic headgear, ratchet headsize adjustment, overhead depth adjustment, free-float suspension joint arms, and all-aluminum parts for corrosion-resistance and light weight.

Price: approx. \$11. **Delivery:** immediate.
Fibre-Metal Products Co., Chester, Pa. (PW, 9/4/61) SIC #3842

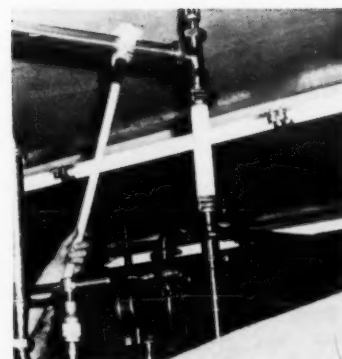


Hacksaw

Has Four Blade Positions

Hacksaw with solid steel frame is available in three models for light work, regular duty, or heavy duty jobs. Each will accommodate 8-in., 10-in., and 12-in. blades and is adjustable for rotation of the blade to four positions. The heavy-duty tool has a molded plastic handle and extra-heavy frame.

Price: \$1.79, \$2.75, and \$4.25 (heavy duty). **Delivery:** immediate.
P & C Tool Co., Portland 22, Ore. (PW, 9/4/61) SIC #3425

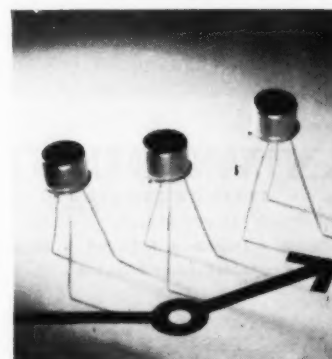


Overhead Pipe Brush

Has 36-in. Handle

Brush with 36-in. long handle cleans overhead pipes without the need for a ladder. Other lengths can be ordered. The brush's nylon bristles encircle the pipe when slipped on it. Brush is available in two types for wet or dry cleaning and two sizes: one for 1½- to 2-in. pipe; another, 2½- to 3-in.

Price: \$6.75. **Delivery:** immediate.
Sparta Brush Co., Inc., Sparta, Wis. (PW, 9/4/61) SIC #3981



Transistor

Fits D.C. Control Circuits

Silicon transistors capable of withstanding storage temperatures up to 200 C are designed for d.c. control circuits, servo controls, and power switching of up to 4 w. The 2N497 and 2N656 are 60-v. units and the 2N498 and 2N657 are 100-v. units. Cases are all-welded and hermetically sealed.

Price: \$5.90 to \$7.80 (quantities of 100 to 999). **Delivery:** immediate.
Raytheon Co., 150 California St., Newton, Mass. (PW, 9/4/61) SIC #3679

Your Guide to New Products

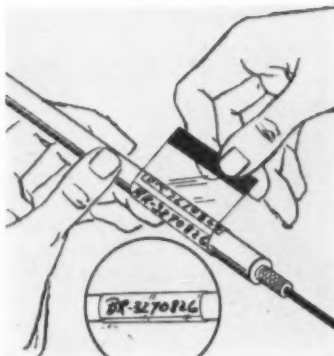


Walkie Truck

Handles Drums

Counterbalanced walkie with adjustable drum clamp lifts, transports, and close stacks drums with 18 3/4-in. to 65 3/4-in. dia. All controls for lift, lower, forward, reverse, and clamping operations are located in a single control handle. Capacity is 1,600 lb. **Price:** approx. \$4,500. **Delivery:** 8 to 10 wk.

Lewis-Shepard Products, Inc., 125 Walnut St., Watertown 72, Mass. (PW, 9/4/61)
SIC #3537



Wire Marker

Permits Special Coding

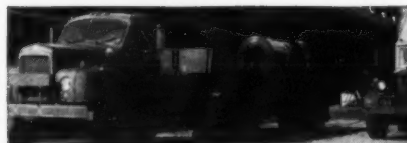
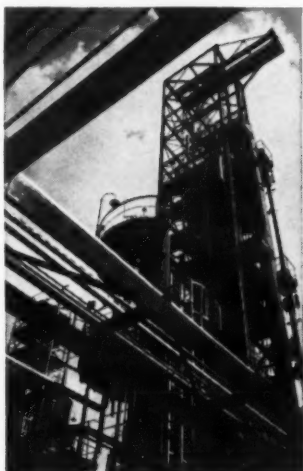
Pressure-sensitive markers (mounted on cards) for labeling wires permits codes or legends to be written in where special markings are needed in small quantities. An extension of the marker is transparent so that when strip is wrapped around a wire it covers code giving laminated protection.

Price: \$22.50 (100 cards). **Delivery:** immediate.

Western Lithograph Co., 689 E. 2nd St., Los Angeles, Calif. (PW, 9/4/61)

SIC #2752

**Capacity
for
quality
quickly...**



Alan Wood has several decided advantages to offer users of steel plate, sheet and strip. Capacity for quality quickly is one of them. Another is dependable product performance stemming from meticulous quality control. And our "immediate-attention-to-orders" policy adds still another *plus* when you do business with Alan Wood.



that's YOUR

ADVANTAGE at ALAN WOOD STEEL COMPANY

Conshohocken, Pa. • STEEL PRODUCERS WITH THE CUSTOMER IN MIND

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Cincinnati • Cleveland • Detroit • Houston • Pittsburgh • Richmond • St. Paul • San Francisco • Seattle
Montreal, Toronto and Vancouver, Canada: A. C. Leslie & Co., Ltd.



Air Compressor

Delivers to 600 Cfm.

Air-cooled compressor for air drilling is available in three-cylinder model to deliver 200 cfm. to 275 cfm. and six-cylinder model for 400 cfm. to 600 cfm. at 250 psi. Applications include high-pressure drilling with down-the-hole tools on mobile equipment and production drilling in the oil fields. Air is compressed to 60 psi. in the first stage and discharged at 250 psi.

Price: \$3,000 (three cylinder) and \$6,100. **Delivery:** 8 to 12 wk.

Westinghouse Air Brake Co., Sidney, Ohio. (PW, 9/4/61)
SIC #3561



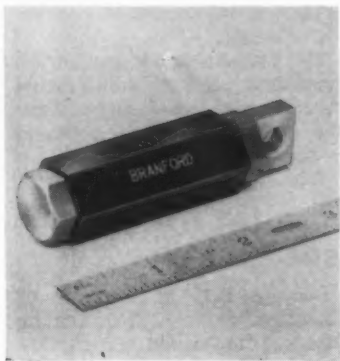
Air Screwdriver

Delivers up to 4,500 Rpm.

Air screwdriver for assembly line work comes in four speeds: 500 rpm., 1,000 rpm., 2,200 rpm., or 4,500 rpm. It is available with a choice of a fastener-finder for slotted-head screws or a chuck for interchangeable use of Phillips-type bits, magnetic bits, or socket drivers. It is offered also in reversible or non-reversible models.

Price: \$130 to \$150 (forward rotation) and \$150 to \$175 (reversible). **Delivery:** immediate.

Thor Power Tool Co., 175 N. State St., Aurora, Ill. (PW, 9/4/61)
SIC #3548



Pneumatic Vibrator

Weights 5 Oz.

Small vibrator weighing 5 oz. is 3-in. long and has a .358-in. piston bore and a .094-in. stroke. It operates on 10-psi. line pressure up to 80 psi. with a frequency range between 6,000 and 18,000 vibrations per min. Recommended operating range for a low noise level is 10 psi. to 20 psi. A dustproof model is also available.

Price: \$12.50. **Delivery:** immediate.
Branford Co., 130 Glen St., New Britain, Conn. (PW, 9/4/61) SIC #3569

Purchasing Week Definition

Pressure-Sensitive Tape Glossary

Adhesion—The bond produced by contact of the adhesive to the surface to which it is applied.

Adhesiveness—The ability of tape to stick when applied to a surface.

Mass—A term sometimes used to denote the adhesive.

Saturation—Treatment of a tape backing to unify the fibers, impart internal strength, and improve resistance to delamination. Also called impregnation.

Slip Sheet—Treated sheet or strip used to cover the adhesive on some tapes to facilitate handling. Also called interliner.

Thermosetting—Characteristic of a tape which undergoes a permanent change under the influence of heat resulting in increased adhesion and resistance to solvents.

Unwind Tension—The amount of force required to remove the tape from its roll.

Water Penetration—Passage of water through the tape.

Water Vapor Transmission—Passage of water vapor through the tape.

Working Temperature—Temperature range the tape can withstand without affecting its performance. (PW, 9/4/61)



1/2-in. Drill

Has Removable Side Handle

Heavy-duty drill, with housing of die-cast aluminum, drills holes up to 1/2 in. in dia. in metal and 1 in. in wood. Larger holes can be drilled with a hole saw. A side handle included for better leverage and control can be removed for close-quarter work. A 3-amp. motor provides 500 rpm. at no load and 300 rpm. at full load but the tool is available also with 750 rpm. or 1,000 rpm. at no extra cost.

Price: \$67.50. **Delivery:** immediate.

Skil Corp., 5033 Elston Ave., Chicago 30, Ill. (PW, 9/4/61) SIC #3548



Check Valve

Fits All Torches

Reverse flow check valves for all makes of torches, line regulators, and cylinder regulators prevent contamination of oxygen regulators by fuel gas and keep oxygen from entering the gas regulator. Torch models can be used on torches with low pressures of less than 1-lb. acetylene or 3-oz. natural gas.

Price: \$3.50 (regulator valves) and \$4 (torch models). **Delivery:** immediate.

Harris Calorific Co., 5501 Cass Ave., Cleveland 2, Ohio. (PW, 9/4/61) SIC #3494

when you design it, think how
 you'll pack it — call **GAYLORD**

A good time to save money on corrugated containers is at the product design stage. Get your design people and your nearby Gaylord Man together, to see whether minor modifications now can lead to major savings in packaging costs.

That's another advantage of Gaylord's nationwide network of plants: you have local package design service practically on your doorstep, wherever you are.

What new product ideas are in your design department now? Is today the day to alert your Gaylord Man?



CROWN ZELLERBACH CORPORATION
 GAYLORD CONTAINER DIVISION



IN CANADA • CROWN ZELLERBACH
 CANADA LTD. VANCOUVER B.C.
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Profitable Reading for P.A.'s

New Books

Decision Models for Inventory Management, by Robert B. Fetter and Winston C. Dalleck. Published by Richard D. Irwin, Inc., Homewood, Illinois, 95 pages. Price: \$5.75.

This is a fairly technical, but concise book aimed as a guide for planning and controlling multi-item inventories. Part of a series in quantitative analysis for business, it details some of the economics involved in inventory control, such as ordering costs, carrying costs, depletion costs,

warehouse costs, and, of course, prices. The authors encourage the reader to take a good analytical look at his own inventory problems, applying the inventory decision models outlined.

To answer any possible criticism that their formula approach to inventory may be fine in theory but impractical in practice, the authors argue that in fact there is no way to avoid the analysis of inventory. At the same time they feel, "If the approach here is combined with understanding of the specific problem situation,

unbiased outlook, and a willingness to deal flexibly yet rigorously with the problem at hand, useful results can be expected."

The authors have included some simple illustrative problems, which stress mathematical solutions for the basic EOQ Model and production EOQ Model, and a case study using data from a real inventory situation to fully explore the inventory models further.

Modern Production Management by Elwood S. Buffa. Published by John

Wiley & Sons, Inc., 440 Park Avenue South, New York 16, N.Y., 636 pages. Price: \$10.25.

Modern production management has developed at such a rapid rate that the current literature has not kept pace with the changes in concepts. This book combines new analytical methods—operations research, management science, and industrial engineering—with the long-familiar traditional methods (e.g., the division of labor whereby a single task is performed repetitively).

The author also discusses the design and operation of production systems, and helps you analyze your present system to see if you are getting the most out

of it. The author's broad definition of production—the process by which goods and services are created—includes factories, retail stores, offices, etc. as production systems.

The comprehensive chapter on management and decision making presents problems and outlines how rational alternatives should be weighed.

From the Associations

ASTM Publications

Booklet lists publications of American Society for Testing Materials, including: compilation of standards, symposiums, manuals, reference reports, etc. Publications cover all phases of materials and their evaluations and are arranged conveniently by titles and subject. The list of publications may be obtained without charge from the *American Society for Testing Materials*, 1916 Race St., Philadelphia 3, Pa.

Aids to Purchasing

Shipping Costs

Describes 35 specific ways to reduce transportation costs. Many of the cost-saving suggestions—while obvious to the experienced traffic manager—are overlooked by thousands of shippers. Typical suggestions include: save up to 50% by changing the packaging, consolidate small orders, seek "commodity rates" for your products, ship differently rated articles in different packages, etc. Copies are available at \$1.00 each from *Institute for Business Research, Inc.*, 49 W. 57th St., New York 19, N.Y.

From the Manufacturers

Steel Designs

Discusses continuing advances in the strength levels, product forms, and design applications of constructional steels. Actual design concepts show how these steels can be used in structures and equipment to achieve higher strength, lighter weight and lower costs (59 pages). *Market Development Div., U.S. Steel Corp.*, 525 William Penn Place, Pittsburgh 30, Pa.

Precision Springs

Discusses features of precision springs, including compression, extension, and torsion springs. Details design formulas, and presents other reference material in graph and table form (15 pages). *Timms Spring Co., Elyria, Ohio.*

Industrial Gloves

Guide aids in selection of industrial gloves for handling nearly 400 different chemicals. Includes a performance chart that rates comparative wear and chemical resistance of neoprene, Koroseal-coated, and rubber gloves (8 pages). *B. F. Goodrich Industrial Products Co., Akron, Ohio.*

Tolerance Rings

Describes company's line of tolerance rings, including: mounting instructions, shaft diameter, torque capacity, application, bore diameter, etc. (17 pages). *Roller Bearing Co. of America, Sullivan Way, West Trenton, N.J.*



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New York Will Try to Melt Its Snow Away

New York—It was Christmas in August, as two rival snow melters went into action here last week to demonstrate their capabilities before city officials (see illustration, p. 1). The prize: a possible contract from the New York City Sanitation Department for 30 thermal melting units costing about \$35,000 each to replace the snow removal trucks.

One machine was developed jointly by the city and Peabody Engineering Corp., New York. The other was built by Thermal Research and Engineering Corp., Conshohocken, Pa., to a design by Esso Research and Engineering Co., Linden, N.J.

Sanitation Commissioner Frank J. Lucia told PURCHASING WEEK that the department will probably purchase one unit of each type for testing purposes.

Lucia cited a possible cost drawback to a large-scale purchase of the Esso machine. "It requires a heavy-duty tractor to pull it at an additional cost of \$10,000, he said, which would bring the total cost of the machine to \$45,000." Esso said a truck tractor capable of pulling any standard semi-trailer would do the job.

The Peabody machine, on the other hand, is a single unit. Lucia said his department provided chassis, frame, tank, and all mobile parts, while Peabody did the thermal engineering, developed the burner and adapted the heating equipment.

The melter consists of a hot-water furnace fueled by kerosene. The furnace generates heat to 3,000 F, which is converted into 160 F water temperature by circulation through a hot air heat-recovery system. Snow is loaded into a melting tank from a standard sanitation department snow-blower at the rate of 1 1/4 tons per min. Hot water injected into the tank is progressively reduced to 40 F discharge temperature.

The Esso melter utilizes oil piped to burners, along with air from a blower. Hot combustion gases result, which shoot into a tank containing highly agitated water at 40-45 F. The gases melt the snow, which is shot into the tank by front-end loaders. Esso calls the method "submerged combustion," and claims almost total efficiency because of the low initial water temperature which permits 98% utilization of the oil's gross heating power.

Fuel costs in previous tests, Esso said, totaled \$7.50 an hour, representing a savings over trucking of some \$50 per hour. Moreover, the job was done in "at least half the time trucking would have required." Less than two gallons of fuel oil, costing around 30¢, are needed to melt one ton of snow, the company said. Consumption of gasoline, to power blower and other accessories is five gal. per hr.

New Aluminum Tanker Produced by Greenville

Greenville, Pa. — Greenville Steel Car Co. said it has completed the first aluminum tank-hopper car to be built in the U.S. from Aluminium, Ltd., designs. The car is to be delivered to the Southern Pacific Railroad, which will place it in general service.

The new car weighs 43,000 lb. and has a capacity of 4,000 cu. ft. It can hold up to 28,000 lb. more than conventional 90-ton covered hoppers, the car manufacturer said. The aluminum car is designed especially for carrying dry bulk foods and chemicals.

In addition to economies resulting from light weight and larger payload, Greenville said the use of aluminum makes linings unnecessary, reduces maintenance costs and increases car life. Other major features of the car include curved side, center discharge and lack of center sill, permitting faster unloading.

Copper Products to Have Designations by Number

(Continued from page 1) as Copper Number 122. The alloy commonly known as leaded commercial bronze will be listed as Copper Alloy Number 314 under the new system.

The association points out that the new system should eliminate classification difficulties that the U. S. Customs Bureau and truck and rail carriers have experienced with trade names such as commercial bronze, which although bronze in color, is chemically a brass.

In addition to providing more coherent categories, the numerical designations should fit in well with the current trend toward data-processing. The association said the main reason for selecting a three-digit system was so that there would be no conflict with the four-digit systems now in use for steel and aluminum.

P/W Adds New Purchasing Expert As Staff Columnist: George Renard

(Continued from page 1)

letin. In 1933 he won the Shipman Medal; and in 1955 he was the recipient of a fellowship award of the Canadian Assn. of Purchasing Agents.

For the government, he served as consultant to the National Recovery Administration and Office

of Price Administration, and as a member of the Hoover Commission, the U.S. Navy Advisory Committee on Procurement, and the U.S. Munitions Advisory Board on Stockpiling Materials. During World War II, he was chief of the Printing & Publishing Division of the War Production Board.

Renard originally was a lawyer (University of Illinois Law School), but soon switched to purchasing, procurement, and production with the St. Louis Screw Co. When the NAPA approached him to take over the secretaryship in 1927 because of his enthusiastic work in the St. Louis area, Renard at first refused. His boss, however, advised him to help the association out on a short term basis—which, of course, turned out to be a 30-year stay.

Subsequently, he has written and lectured so widely on purchasing that the title "Mr. Purchasing" has become his private trademark. The tagline which Renard uses on his letterhead—"From One P.A. to Another"—now will apply directly to you.

FTC Orders 3M to Divest Itself of Insulation Division

Washington—Minnesota Mining and Mfg. Co., agreed to a Federal Trade Commission order that it sell its Insulation and Wires Div.

The division consists of properties purchased in 1956 from Essex Wire Corp., Fort Wayne, Ind. The FTC ruled that the acquisition might tend to create a monopoly in the sale of electrical insulation products in various parts of the country. At the same time, the commission dismissed a complaint that Minnesota Mining's purchase of Prehler Electrical Insulation Co., Chicago, (also in 1956) violated antitrust laws.

Purchasing Week's Purchasing Perspective

(Continued from page 1)

closely controlled inventories and supplier delivery capability will continue to pay off with lower costs and higher profits.

What about steel prices? Some of the top purchasing executives in steel's own backyard, Pittsburgh, figure that across-the-board increases are out. And increases—if any—will be slow, easy, and as inconspicuous as possible.

That old bogey, government red tape, again is being assailed in the defense contracting community. A quiet talk with almost any purchasing agent with large prime and subcontracting responsibilities will air complaints that paperwork and slow-decision governmental agencies are snarling his company's efficient defense efforts.

But in contrast to these "don't quote me" comments comes a blow-by-blow dissection of procurement policy ills before the latest meeting of the National Security Industrial Assn.'s Procurement Advisory Council.

Probing more deeply than the disgruntled P.A.'s dismayed by paperwork delays and day-to-day frustrations, United Aircraft's general counsel, Robert E. Beach attacked a procurement system which he contends allows a dubiously qualified government worker to put his own interpretation on a problem that "hasn't come up before."

Says Beach: "Most authoritative of all regulations is the 'Armed Services Procurement Regulation of 1947'. This measure cemented into permanent law much of the flexibility forced on the government by wartime exigencies . . . (However), its subsequent expansion and augmentation by counterpart regulations in each service have been accompanied by unyielding administrative adherence to its forms and details until now it has become a straitjacket. It is becoming impossible to get any deviation from a regulation no matter how meritorious."

The results of the accumulating snarl, Beach told the NSIA, are that: "... engineering is swamped with manuals and specifications, accounting is badgered with demands for statements, reports, breakdowns, forecasts, audits, and questionnaires, and security requirements get sillier every year." Warning of possible inevitable government control of business affairs, he denounced what he termed government deep-seated distrust of . . . big business and science." Under such a system, he added, the "prizes are won by the cautious and the timid."

Back to the P.A. snowed under with documentary paperwork: Many feel the whole spectrum of government procurement policies need review and, in some areas, revision to speed urgent work. One company procurement official on a key missile project said he feels his company's progress is nullified by such well-meant but administratively tedious chores. One he cited was the Air Force's small business justification checklist.

"Our keeping such records doesn't mean small business gets more work—it only means we get bogged down in bales of paperwork," he said. "We feel it's the buyer's job to award subcontracts to the most qualified person, no matter how big or small he is . . . We go along with the spirit of the regulation, but at the same time feel the required documentation slows us down in our job terrifically."

"Do you think for a moment," he asks, "that the Russians have to stop and ponder whether 'small business' is getting a fair shake, or a 'depressed area' is a prime consideration of where a contract should go?"

Price Changes for Purchasing Agents

Item & Company	Amount of Change	New Price	Reason
INCREASES			
Trichlorethylene (Oct. 1), Carload, lb.	.0075	\$1.325	
Cotton fabrics (carded twills, sateens, coverts), yard.	.015	....	better demand
Army ducks, lb.	.01	....	higher costs
Tin salts: potassium stannate, lb.	.012	.378	metal up
Sodium stannate, lb.	.014	.745	metal up
Tin cryst., anhyd., lb.	.019	\$1.142	metal up
Oxide, 400 lb drum, lb.	.045	\$1.32	metal up
REDUCTIONS			
Aniline, tankcar, lb.	.03	.15	lower costs
Aluminum alloy ingots (Apex), lb.	.005	....	competition
Bearings, real-slim "CP" ball radial bearings (Kaydon)	25%-42%	....	lower costs
Polyvinyl acetate emulsion, West Coast, lb.	.015	....	broaden market
Developer-fixer monobaths, uniba.h line (Cormac)	15%	....	prod. econs.
Beryllium rod	10%	....	prod. econs.
Gasoline, Mid Continent, 91-octane, gal.	.005	.1175	oversupply

Sales Force Reorganized By National Carbon Co.

New York—National Carbon Co., a division of Union Carbide Corp., has reorganized its sales operations to provide closer liaison between production, technology and marketing units.

The company's sales force still is divided into product groups, but each group now has its own marketing manager and product manager. C. J. Chapman, vice president-marketing, said the new organization plan, while providing for much closer communication between the field sales force and marketing management, retains the advantages of specialty selling for the firm's line of industrial carbon and graphite.

White's Compact Line Has 6-Cylinder Diesels

Cleveland—White Motor Co. announced that it has begun making compact trucks equipped with 6-cylinder White-Perkins diesel engines.

The new line is designed especially for stop-and-go operations in city and suburban areas where gross weight of up to 28,000 lb. is required.

The trucks can be operated profitably when the distance traveled averages less than 200 miles a day, a spokesman pointed out.

The 120 hp, wtr cu. in. diesel engines are no larger or heavier than gasoline engines of the same power, White added.

P.A.'s With Initiative Will Captain VA Teams Late News in Brief

(Continued from page 1)
analysis. When A-C decided to switch to a materials management setup, Foote was made head of the entire operation. One of his main functions now is coordinating purchasing and VA efforts—both of which are under his wing.

• Some companies, such as Bell Helicopter Co., are giving one man in the purchasing department responsibility for VA coordination. Analysts who want help in contacting vendors and finding out what new products are available go to the coordinator. Also, other buyers in the department route vendors to him so they can get into contact with the proper VA people in the company.

• Aerojet-General Corp. has elected to have value analysis on two levels—inside and outside of purchasing. Analysts in various company divisions tackle technical projects, while a buyer in the liquid fuel division investigates general problems such as MRO supplies. All buyers use a special form to suggest ideas to division analysts.

Even if the P.A. doesn't sit on the VA committee, he will often "make or break" the program, according to the experts. "Purchasing is the eyes, ears and nose of the company," is the way Clifford Schacht of Overhead Door Corp. put it. And "everything we do in VA can be undone by purchasing if the buyer doesn't understand value analysis techniques," was how another observer expressed it.

Regardless of how the value analysis program is set up, almost all companies polled at the conference require that initial vendor contacts be made through purchasing. Direct contact between vendor and VA men usually follows, but most analysts make sure



VA IN ACTION: An Allis Chalmers purchasing department value analysis expert, J. M. Erdahl, points out techniques of money-saving design change to colleague at value analysis exhibit in Chicago.

and processes to the value analysis people. He constantly comes in contact with vendors and other purchasing people and has a vast amount of specialized knowledge at his disposal which is essential to the success of a value analysis program.

Companies attending the convention reported documented savings totaling about \$25-million from value analysis programs. One firm described a project on which cost reductions of as much as 98% were achieved and several firms claimed returns on investments of as high as 10 to 1.

All good examples of how purchasing figures in VA programs were not represented at Chicago. Exemplifying how purchasing can hunt up value analysis ideas is the B. F. Goodrich Co. "buyer of the month" program. For over three years the company's Akron office has been running a buyer-of-the-month contest to stimulate interest in VA. The idea is to give recognition to the purchasing agent who in the previous two months has gained the most num-

In 1961 the Akron facility expects its value analysis program to save about \$500,000. Catt feels that to equal this savings in sales the company would have to sell \$12-million worth of products.

In still another example of purchasing's key role in the value analysis picture, Dresser Industries, Inc., held the first in a series of orientation-workshop seminars in late July at the firm's Guiberson Corp. in Dallas. Employees attending the five day session came from several of the Dresser divisions and represented all phases of management, purchasing, material control, engineering, manufacturing, and quality control.

Broken into teams led by a member of the Society of American Value Engineers, the group set out to learn and actually apply the techniques and concepts of VA on Dresser products.

Dresser Director of Purchases R. D. Crane, who spearheaded the planning for the seminar, commented: "The results of our first VA seminar were highly rewarding. Several proposals were suggested for product change and improvement that can easily mean a saving of 30% in over-all costs, and amount to much more in profit."

Apex Cuts Prices of Alloy Ingots 1/2¢/lb.

Chicago—Apex Smelting Co. reduced the prices of all but two aluminum alloy ingots by 1/2¢/lb. The move sparked strong criticism from other smelters which supply aluminum diecasters.

Apex said it was merely making official a line of price discounts that have been in effect in the industry for some time. A. J. Peterson, in charge of aluminum ingot sales for Apex, said the price reduction of most ingots will continue until "conditions change."

In the wake of Apex's move, two companies posted cuts in the two ingots Apex had left untouched. Alloys & Chemicals Corp., Cleveland, announced cuts in D 132 piston alloy and 218 high grade alloy. George Sall Metals Co., Philadelphia, followed suit. Then both companies withdrew the reductions offered.

Apex held to its previous cuts, and diecasters said they were able to purchase the alloy ingots at the level that was established by Apex.

Survey Shows Boost in Blanket Orders

New York—The NAPA's August Business Survey indicated that a growing number of buyers are pushing the use of blanket orders as a form of insurance against possible labor strife and the upward business cycle. Purchasing executives also reported almost no change in forward buying from July and only a "modest upward push in prices," the survey said.

Factory Inventories Up

Washington—Factory inventories jumped some \$200-million in July—the first solid increase in stocks since producers stopped piling in early spring. The entire increase occurred in the key durable goods area. Factory sales recorded almost as large an increase, thereby keeping stock-sales ratios low.

Buyers Telephone Bids

Atlanta—Bidders paid a total of \$2,079,052.44, about 16.11% of value, for Army surplus property in the Defense Dept.'s first closed-circuit telephone auction. Six cities were in the hookup—Denver, New York, Columbus, Ohio, Fort Worth, Tex., Berkeley, Calif., with the chief auctioneer at the Army's Atlanta general depot.

NITL Urges Flexible Transport Policy

Washington—The National Industrial Traffic League, in a letter to Commerce Secy. Hodges, urged adoption of a transportation policy that would insure shippers better service and more realistically competitive rates. The League endorsed "common ownership" and said experimentation in ratemaking, such as that reflected in piggy-backing, volume rates, and contract rates, should be encouraged.

Transport Committee Appointed

New York—A Tri-State Transportation Committee was appointed by the governors of New York, Connecticut, and New Jersey to review freight as well as passenger problems. Committee meets with representatives of federal agencies in Washington Sept. 18 and makes first report Nov. 1 on what it will act on first.

UC Unveils 2 Resins

New York—Union Carbide Plastics Co. announced two new vinyl solution resins for preparation of product finishes and industrial maintenance coatings. Called Bakelite VYHD and VXCC, the resins both have key property of low viscosity in high solids solutions.

Lower Air Cargo Rates Promised As Carriers Study New CAB Ruling

(Continued from page 1)
worked out by the International Air Transport Assn., this ensuring lower rates on the international front. The new schedule went into effect Sept. 1. Under the IATA agreement, it will remain in force until Mar. 31, 1963.

The CAB said scrapping of minimum air cargo rates domestically would enable carriers to realize a greater volume of business and tap new markets with more efficient equipment now being put into service.

Flying Tiger, which plans to put the first of 10 CL-44 turbo-prop cargo carriers into operation in November, stepped up work on a major tariff revision following the CAB's announcement. The new schedule will feature class rates based on density or "space occupied," as well as volume and distance.

A company spokesman said some of the rates will be as much as 40% below existing tariffs, and in some cases, commodity rates will be as low as truck rates.

The CAB warned airlines not to return to the all-out rate warfare "which necessitated the issuance of the minimum orders" in 1948. These minimums were raised in 1953 by 25% to their present 20¢/ton mile for the first 1,000 ton miles and 16 1/4¢ for each additional mile. Last February, the CAB tentatively proposed revoking them altogether, and last week's action made it official.

Air freight forwarders generally expressed concern that revocation of the minimums would

result in lower rates and smaller rate spreads between weight breaks. Some carriers also argued that cancellation of the minimums will result in lower average yields at a time when industry earnings are depressed. They urged the board to wait until experience with the new aircraft showed whether expectations of greater efficiency and lower operating costs are justified.

With regard to the North Atlantic rates which it approved, the CAB expressed some disappointment. It noted that they fell somewhat short of the desires of the board, the Air Freight Forwarders Assn., and the American carriers that fly the North Atlantic.

The schedule provides five weight breaks on both east and westbound shipments up to 1,000 kg. and an additional break at 7,500 kg. for eastbound shipments only. Rate reductions range from 31% at 45 kg. to 67% at 1,000 kg., and 69% for the high eastbound break point.

The final IATA agreement provides fewer rate breaks and a lesser curtailment of commodity descriptions than the CAB had wanted.

In approving the new rates, the CAB stuck by its pledge to limit to eastbound flights the authority of air freight forwarders to charter planes. It offered to do this at a time when it appeared IATA members could reach no agreement on North Atlantic rates, and an open-rate situation threatened. The Board's offer removed a roadblock that led to the final agreement.



SHIRTSLEEVE CONFERENCE: Value analysis advocates trade cost reduction tips. Big and small firms attended this morning-long session.

purchasing is kept informed of developments.

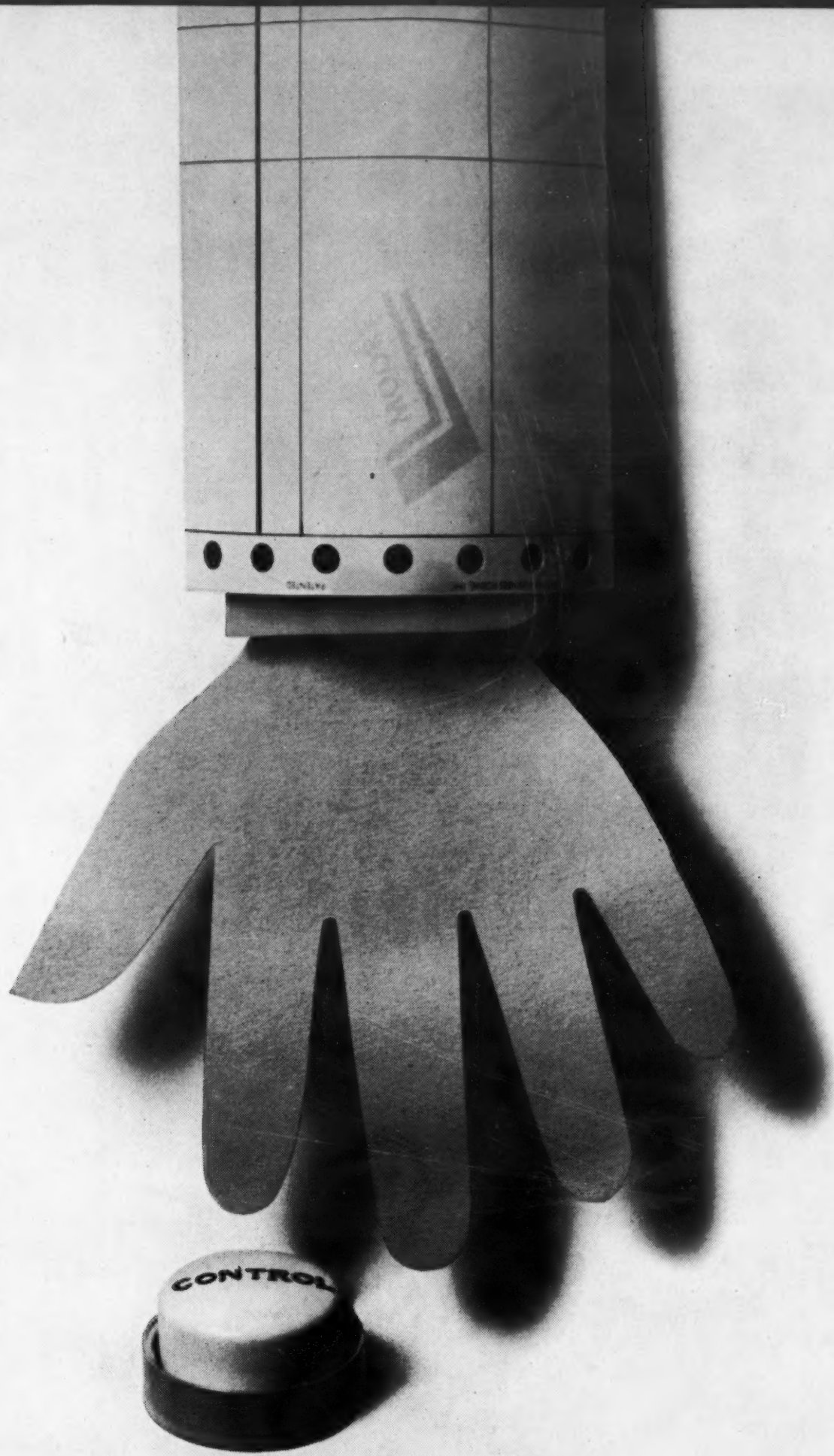
Entire purchasing departments are being put through VA seminars designed to alert buyers for ways to contribute toward the value analysis effort. Graflex, Inc., for example, sent five P.A.'s to one such a seminar while one man held fort at the office. Even if the buyer does not have technical know-how, the argument goes, a knowledge of VA principles can tip him off to cost cutting ideas.

Commenting on the purchasing agent's role in providing ideas, convention host J. K. Fowlkes, president of Value Analysis, Inc., told PURCHASING WEEK: "The P.A. must constantly feed new ideas about materials, products,

number of points for value analysis ideas.

BFG urges buyers to get together with an engineer, the requisitioner, and the supplier to hash out the function and cost of parts. A recent example of how this approach pays off comes from one of the "buyers of the month" who analyzed the tip cladding cone for the Hound Dog missile with an engineer and scheduler.

"The best part of this program," explains Harold W. Catt, director of purchases and traffic at BFG, "is that it has been growing every year since it was started. You might think the buyers would skim off the top in three years, but instead the program has increased in ideas."



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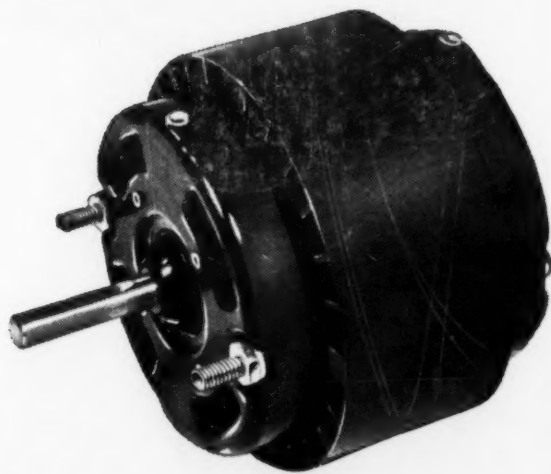
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